The Acquisition Of Six Morpho-Syntactic Structures Of English By Kenyan School Children.

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Ph.D
University of Edinburgh
1987

Dedicated To

Wambui, Wanja, Nyambura and Wangare.

ACKNOWLEDGEMENTS

I am greatly indebted to the British Council and the Kenyan Government for agreeing to sponsor my study.

Many sincere thanks go to my supervisor, Dr Alan Davies, who helped me throughout my course. Thanks also to my colleagues who offered constructive criticisms of the preliminary report which I made about my research work.

The field work would not have been successful without the invaluable help from my three research assistants: Messrs Simon M. Mbugua and Richard Muhambe (Headmasters of St. Theresa Primary and Kaptembwo Primary Schools respectively) and E.N. Kiondo (Deputy Headmaster of Nakuru High School).

I would also like to extend my gratitude to the following:

- the 2nd Year (1974/75) B.Ed Linguistics Students at Kenyatta University for describing the structures under investigation in their respective NLs.
- the subjects who participated in the research project.
- Dr Babu and Dr Odongo (both Luo) and Dr Baboon and Dr Cheruyoit (both Kalenjin) for translating some tasks into the Luo and Kalenjin languages.
- Geoff Cohen and Helen Talbot, who assisted me in processing the data.
- Helen Pressland and Gavin Wallace for their invaluable help in preparing the manuscript on a word processor.

Last and not least, my thanks to my mother, brothers, sisters and friends for their words of encouragement during my stay in Edinburgh.

DECLARATION

This **THESIS** which was presented for the award of a Doctor of Philosophy (Ph.D) degree in the Department of Applied Linguistics, University of Edinburgh, is my original work.

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1987

ABSTRACT

The research project is a study into the acquisition of tense, plurality and negation. The aims are to find out whether:-

1. the source language would have any effects on the form of interlanguage.

2. learners' movement from one time to another would affect the form of interlanguage.

3. the interlanguage would show systematicity, dynamicity and goal-orientedness.

4. the source language would determine the relative difficulty in the acquisition of the structures.

5. there is any relationship between learners' movement over time and the relative difficulty they experience in acquiring the structures.

In order to meet these aims, a cross-sectional study was conducted involving learners located at four different points in time and belonging to three unrelated mother tongues. The data was obtained through elicitation tasks and we focussed on the types of errors which learners made. The bulk of the errors are attributed to the strategy of overgeneralisation and the markedness theory is used to account for some of the variations in interlanguage. We concluded that the transitional constructions reflect errors that are of a developmental nature.

Besides this we concluded that the source language does not seem to impinge on the interlanguage forms nor does it determine the relative difficulty experienced by learners in their acquisition of the structures. *Time* seems to be a crucial variable in relation to the variations in interlanguage and the relative degrees of difficulty which learners experience.

Attempts are made to relate the findings to pedagogy and also to L_2 acquisition in an acquisition poor environment such as where the study was carried out.

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CHAPTER ONE

1. Some Background Information

1.0 Location

The study was conducted in Kenya - East Africa. The country has a total area of 580,367 square km or 224,080 square miles. Kenya is located approximately between latitudes 4° 21' North and 4° 28' South; and between longitudes 34° East and 42° East.

The Pilot Study and the Main Experiment were carried out in two primary schools and one secondary school which are located in Nakuru town within Nakuru District.

1.1 Language Situation In Kenya

According to the 1969 National Population Census the population was composed of 15 million Africans who belong to different mother tongues, 78,600 Asians who belong to several different Asiatic languages, 39,901 Europeans of different nationalities but the majority are of British origin, 39,146 Arabs and at least 10,213 *others* who come from many diverse linguistic backgrounds.

The African languages are traditionally regarded as belonging to four major linguistic groups: *Bantu* (eg Gĩkũyũ, Akamba, Luhya), *Para-Nilotic* (eg Nandi, Kipsigis, Maasai), *Cushitic* (eg Orma, Samali, Galla), and *Nilotic (eg Luo).* These labels conceal a lot of information concerning the rich linguistic diversity that is characteristic of Kenya. It is reported that Kenya has 47 tribes (Whiteley 1974:21) and occasionally the figure is adjusted to 34 tribes - (ibid p.27). The Kenyan Government (1981) listed 39 African tribes who speak different languages. Besides these African languages, we have Kiswahili which is commonly associated with the coastal people. The language developed as a lingua

franca between the early coastal traders notably the Arabs and the indigenous coastal people. Since the vast majority of the coastal people belong to the Bantu linguistic group, the language borrowed many morphological, syntactic, lexical and phonological structures from the Bantu languages. The word *Swahili* is derived from an Arabic word *sahila* which means *coast*.

Most writers classify Kiswahili under the Bantu family of languages which is spread over the whole of central and southern parts of the African continent. Kiswahili has about twenty dialects.

From the coastal area where it is still widely used, the language spread into the hinterland along the Mombasa-Kisumu railway line after which it diffused into the rural districts. Kiswahili is currently widely used in the urban areas and in some rural districts such as Nakuru where people are linguistically heterogenous. It is claimed that at least 60% of the African population in Kenya understand and can speak the language.

The subjects in the research project speak their respective mother tongues, (ie Luo, Kalenjin and Gikuyu) and they have acquired Kiswahili in and outside classrooms.

1.2. Languages In Education

Before independence English used to be introduced as a subject at Primary 3 afterwhich it was used as a medium of instruction in Primary 4 or 5. But a few changes have been introduced since Kenya attained her independence in 1963.

The Kenya Government appointed the Ominde Commission (1964) to survey the education which we had inherited. After the survey, the commission reported that most people wished to have English introduced at Primary One. This was not implemented immediately because of various social and political reasons. One of these reasons is that some

pressure groups held the view that children should be allowed to develop sufficient competence in their first language before they are introduced to a second language.

Although Kiswahili is also a non-primary language to many Kenyans, the commission recommended that it should be stressed in schools because it unifies the Kenyans. Similar sentiments were expressed in another commission - the Gachathi Report On Education Objectives And Policies. It said:

> Kiswahili is a national language for Kenya. It must therefore be made available to schools in the most appropriate form educationally.
>
> (1976 Paragraph 9.2:11)

As far as English is concerned, the commission stated ambiguously that children are expected to have learnt adequate English by the end of the Primary school.

The mother tongues are used as the medium of instruction between Primary 1 and 3 in the areas where children belong to one mother tongue. But in areas where children speak different mother tongues the practice is to use Kiswahili as the medium of instruction in the first three years of Primary School. English is introduced as a subject at Primary 1 in the rural districts and it becomes the medium of instruction at Primary 4. In some urban areas such at Nakuru town where the research project was conducted, the children are able to start using English at Primary 1 and it is quite often used as the medium of instruction. Besides being used as the medium of instruction, it is taught as one of the main subjects in all the school levels.

1.3 Aims of The Study.

The general aim of this study is to contribute additional evidence to interlanguage studies with particular reference to how learners acquire tenses, plurality and negation. These structures have been the focus of many interlanguage studies. They were chosen because Tarone, Swain and

Fathman (1976) pointed out the need to replicate studies before the results can be used to influence teaching of a second language. Secondly, the three structures seem to be popular in many examinations which have been set in Kenya.

The study will also deepen our understanding of language acquisition within tutored environments and in a context where peers and the community outside school are not speakers of the target language.

The specific aims will focus on the interaction between the *forms of interlanguage* - which is regarded as the dependent variable and the *source language* and *Time* which are regarded as the independent variables. In order to explain the interaction between these variables; we shall analyse the forms of the learners' errors and then attribute them to specific causes.

1.4 Theoretical Framework

The study is based on the notion Interlanguage (1L) which is defined as a separate linguistic system produced by a language learner as he attempts to communicate in a second language (L_2) (Selinker 1972). The seperate linguistic system has also been referred to as idiosyncratic dialect (Corder 1971), approximative system (Nemser 1971), and language learner language (Corder 1981).

Central to the interlanguage hypothesis is the view that an interlanguage consists of transitional constructions which are different from the native language (NL) and the target language (TL). The transitional constructions are important in that they reveal the types of hypotheses a learner forms about a target language. Besides this the learner is viewed as actively involved in a creative construction process as he creates his own unique linguistic system out of the input he gets.

1.5 Presentation

The study is divided into seven chapters. The first is an introductory chapter and it is intended to give some important background information.

Chapter 2 is a fairly lengthy historically organised description of the development of 1L with particular emphasis on its current position within second language acquisition (SLA) research. Although the claim is made that SLA studies are still in their infancy, we have witnessed a plethora of research studies. Some of these studies have generated hypotheses and others have tested the validity of specific hypotheses.

Since we cannot review all the literature, we have had to be selective, thus limiting the content presented in relation to each section. We have also reviewed some theories and models and highlighted their inherent strengths and weaknesses. One of the best ways to summarize the *State of The Art* in 1L studies is expressed by Ellis (1984a) who says that the preoccupation is to try to *identify* and *describe* a learner's built-in syllabus.

The third chapter contains concise descriptions of the structures which are under investigation. In order to find out whether there is any evidence of cross linguistic influence on the 1L, we have described the structures in four languages: English, Luo, Kalenjin and Gikũyũ. The brief morpho-syntactic descriptions are not intended to pinpoint areas of cross-linguistic influence. Our approach is in the form of Error Analysis (Corder 1967) which examines L2 errors without any preconceived notions of their cause(s).

Before carrying out the main experiment we conducted a Pilot Study which is reported in Chapter four. The main objective was to assess whether we could rely on the elicitation instruments for the purpose of eliciting data. The results showed that we could rely on the tests which we had designed. But there was evidence that some learners did not understand some instructions. We decided to make the instructions

as clear as possible and the few examples provided at the beginning of each section were revised with all the subjects paying attention.

The results of the main experiment are presented in Chapter five. We have reported, in detail, the 1L forms which learners used in relation to each of the structures under investigation. The format is justified because learners performed different task types. We have also used implicational scaling to present the structures in the form of linear orders of relative difficulty which we regard as orders of acquisition.

Chapter six contains the syntheses of the data in Chapter five and the findings are used for the purpose of accepting or rejecting the specific hypotheses. Of the five hypotheses made in the present study three null hypotheses were strongly supported by the data. They were accepted and the other two were rejected.

The last chapter is a summary of the findings which are presented in the form of tentative conclusions. We have also tried to relate the findings to 'interlanguage', language acquisition in acquisition - poor environment and to pedagogy. A few suggestions have been made concerning future research.

CHAPTER TWO

2. Literature Review

2.0 Introduction

The principal objective of this chapter is to present a short historic account of the development of some theories and hypotheses which have been used by linguists to explain the processes involved in language teaching and learning. It will become clear in the course of our discussion that up to the mid sixties the field was atheoretical and somewhat underdeveloped. It focussed on language teaching rather than language learning. Then in the late sixties and thereafter the study became dominated by innatist theories which focussed on language learning rather than language teaching. The central concern seems to be the processes and strategies which are involved in language acquisition.

In order to explain the cognitive processes and strategies, linguists have proposed various psycholinguistic models and it appears that none of the models which have been proposed has sufficient descriptive and explanatory powers to capture the process of language acquisition. This means that there is still room for hypotheses testing and model building.

2.1:0 Contrastive Analysis

Contrastive Analysis or sometimes called Comparative Studies dates back to the 1940's. The comparativists made several types of studies. For example, they compared the various stages in the development of a single language or compared the usage of a language at a given point in time. Apart from such studies, two or more languages were compared so as to determine the phonological, lexical, syntactic and even semantic similarities and differences between them. Such studies came to be called Contrastive Analysis (CA) or Contrastive Linguistics in the early forties. The results of the comparisons had important implications in pedagogy. For instance, Fries (1945) a prominent comparative linguist whose interest was in foreign language teaching said that 'the most

effective teaching materials were those which were based on a scientific description of the language to be learned; carefully compared with a parallel description of the native language of a learner.

Besides Fries, two other comparative linguists Weinreich (1953) and Haugen (1953) helped in the development of Contrastive analysis hypothesis (CAH). Their comparative linguistic research was based on immigrants to the U.S.A. They made some important claims. Weinreich claimed that *interference* results when a speaker of one language communicates in a non-primary language. He defined this linguistic phenomenon as:

> those instances of deviations from the norms of either language which occur in the speech of bilinguals as a result of their familiarity with more than one language.
>
> 1953:1

In an attempt to consolidate this theory about the interference phenomenon Weinreich talked about the *strength* and *directionality* of interference claiming that the language which has been learnt first or the mother tongue, is in a privileged position to resist interference. Weinreich's theoretical position seems to be that it is a learner's first language (L_1) which *interferes* with his or her acquisition of a second language (L_2) such that the errors made by a second language learner will be due to the influence of the learner's L_1.

After having conducted a similar study to that of Weinreich, Haugen (1953) found that the Norwegian immigrants to North America reproduced some patterns of their first language in the target language. He used the notion *borrowing* to explain the cross linguistic influence of L_1 features on L_2.

The notions *interference* and *borrowing* seem to refer to the same phenomenon i.e. *inter-lingual influence*. It would appear that Lado picked up the notions and tried to elaborate them by saying:

> ...individuals tend to transfer the forms and meanings and the distribution of forms and the meanings of their native language and culture to the foreign language and culture.
>
> 1957.2

Lado's view which does not make distinction between interference and borrowing seems to have been accepted within Contrastive Analysis.

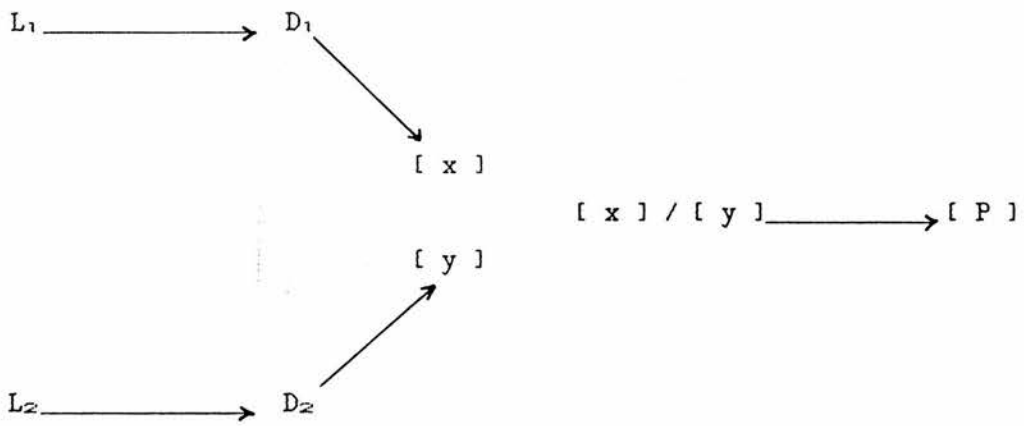
Contrastive Analysis developed into two main branches. First, the 'Theoretical Contrastive Studies' which gave accounts of the differences and similarities between a set of languages. This branch of contrastive analysis used such notions as: *linguistic congruence, equivalence* and *correspondence* to explain the results obtained in the studies. The second was 'Applied Contrastive Studies' which applied the evidence from the theoretical CA studies for specific purposes in pedagogy, translation, bilingual analyses etc. Since the differences and similarities that might exist between languages were assumed to have far reaching implications for language learning, the applied contrastive studies became an integral part of foreign language teaching.

The contrastive analysis hypothesis (CAH) held the view that where structures in the first language differed from those in the target language, errors that reflected the structure of the first language would be produced. This was regarded as the major obstacle to successful mastery of a target language. The CA hypothesis also held the view that there would be no learning difficulties where the structures of L_1 were similar to those of the L_2. These assumptions are clearly stated by Lado who says that:

> ...the student who comes into contact with a foreign language will find some features of it quite easy and others quite difficult. Those elements that are similar to his native language will be simple for him, and those elements that are different will be difficult.
>
> 1957:2

In short, the claim made in CA hypothesis is that a comparison between L_1 and L_2 should lead to the *discovery* and *prediction* of structural areas which would be difficult to learn. Using the

methodological scheme illustrated below Lado, (1957) developed the key ideas in CA hypothesis and produced a comprehensive book - *Linguistics Across Cultures*



(Whitman R. L. 1970: 191)

Figure 2.0. The Comparative Linguistic Procedure.

Lado and his colleagues believed that the occurrence of errors reflected learning difficulties and that such errors could be avoided if teachers paid attention to the incongruent areas of the two languages. This view was held by many others, notably Banathy, Tragger and Waddle (1966) who claimed that *all* second language learning errors were caused by old habits (i.e. L_1) which hindered the formation of new habits (i.e. L_2). It appears that according to the comparative analysts of the time

language learning was a process in which the extinction of the old habits was a prerequisite to the acquisition of the new language. Another key idea which was adopted in pedagogy from CA hypothesis was that any language learning errors were undesirable and it was the role of teachers to drill learners until such errors were eradicated.

2.1:0

.1 The Strong version of CA Hypothesis

We have noted that the contrastive analysis hypothesis as described by Lado (1957) maintained that when a learner attempted to acquire a second language he would make structural errors in the target language which were directly traceable to the structures of his native language. One implication of this hypothesis is that a second language learner's errors could easily be *predicted.* The hypothesis that errors could be predicted came to be called the strong version of CA hypothesis Wardhaugh (1970). It has also been referred to as predictive or apriori version (Schachter (1974).

The structural dissimilarities between languages were, according to this version, the causative variable of a language learner's errors. It was therefore the role of pedagogy to expose learners to target drills which were designed to change a learner's linguistic behaviour at the

relevant points of linguistic incongruence. But the strongest claims were made by Lee (1968) who suggested the following:-

> i) that the prime cause, or even the sole cause of difficulty and error in foreign language learning is interference coming from the native language.
>
> ii) that the difficulties are chiefly or wholly due to the differences between the two languages.
>
> ii) that the greater the differences are, the more acute the learning difficulties will be.
>
> iv) that the results of a comparison between two languages are needed to predict the difficulties and errors which will occur in learning a foreign language.
>
> v) that what there is to teach can best be found by comparing the two languages and then subtracting what is common to them, so that, what the student has to learn equals the sum of the difference established by the contrastive analysis.

The traditional contrastive analysis hypothesis dominated in the field of applied linguistics and second language teaching until Corder (1967) suggested that language learning errors were evidence of the strategies a language learner uses in the process of acquiring a target language. The suggestion by Corder that errors are not a sign of inter-linguistic interference created a new wave of interest and a reassessment of the CA hypothesis. Carroll (1968) responded by saying:

> I have been assuming that positive and negative transfer phenomena in learning a second language is a reality. We could in fact, ask the question whether transfer phenomena are not simply artefacts of particular training methods, or rather the absence of suitable training methods. Many examples of interference seem to be the result of what we may call unguided imitative behaviour, or of untutored responding in terms of prior learning.

Another linguist, Strevens (1969), who was in support of Corder, suggested that errors should not be viewed as pedagogic problems to be overcome, but as normal and inevitable features indicating the strategies that learners use. These suggestions prompted linguists to conduct empirical studies in an attempt to verify the existence of the interference phenomenon. For instance, Duskova (1969) investigated the sources of error among Czech students who were acquiring English.

She confirmed that the students' errors were not only due to the interference from the native language but also to intra-lingual interference. Such findings provoked linguists not only to redefine the notion of interference but also to start questioning the validity of the predictive and explanatory powers of the contrastive analysis hypothesis.

The new and more positive view which was beginning to dominate literature in second language learning was that of *internal interference* The concept "internal interference" might be attributed to Wolfe (1967:181) because it was his view that once a student grasped the idea that the new language differed from his native language, he would not know when it was safe to operate in terms of his native language and he may create his own structures on the basis of previous contact with the target language. This view was also held by many other linguists: Falk (1968), Wilkins (1968), Selinker (1969), and Buteau (1970). Wardhaugh (1970) claimed that sufficient evidence had been adduced to prove that the sources of linguistic interference were not restricted to the native language. A similar point of view was held by Richards (1971) and Selinker (1972) who cited numerous examples of errors which were not attributable to inter-lingual interference but were intra-lingual and developmental in nature.

After conducting a research to find out whether contrastive analysis could be used to predict the levels of difficulty that non-natives (2,500 Japanese) have in learning English syntactic patterns, Whitman and Jackson (1972) concluded that CA was theoretically and practically inadequate to predict the interference problems of a language learner. They went further to say that interference or native-to-target language transfer plays only a small role in language learning.

Later on Dulay and Burt (1974) looked at the types of errors produced by Spanish speakers who were learning English. They concluded:

> Only 4.7% of the errors made by our 5 - 8 year old children learning English as a second language unambiguously reflected Spanish interference. In other words, only 4.7% of the childrens' errors could be explained by habit formation account of language acquisition. On the other hand 87.1% of the errors reflected the

same developmental structures used by children learning English as a first language.

Despite the mounting evidence which was not in support of the strong version of CA hypothesis, Schachter (1974) used the methodological techniques of contrastive analysis. She compared the structural differences in the relative clauses between Persian, Arabic and Chinese with the object of finding out which of the learners would have problems in learning the relative clauses in English. She claimed that she was able to make predictions of probable areas of difficulty for the speakers of each group in producing relative clauses in the target language.

2.1:0

2. The Weak Version of CA Hypothesis

Linguists had tried to explain the causes of errors after they had been made. Corder (1971:158) said that one explanation of a language learners' errors is that the learner carries habits of his mother tongue into the second language. The attempt to attribute errors to specific causes came to be referred to as the weak version of CA hypothesis. It was referred to as aposteriori (Gradman (1971(a)) or generally the *explanatory* version of CA hypothesis.

Although most of the errors were explained in terms of the effects of the mother tongue, it is important to point out here that linguists had started to make systematic analyses of errors. This led to Error Analysis as an autonomous discipline - discussed in section 2.3:0. It is therefore right to regard Error analysis as an analytical procedure which grew from the weak version of CA hypothesis.

Even though by the early 1970's the traditional contrastive analysis had given way to a more positive and informed view of second language learning, it is still being debated in contemporary second language acquisition research. An updated CA hypothesis is presented in section 2.1:0.3. In recent years there has been a resurgence of interest in the

phenomenon of language 'Transfer'; this time not as a mechanical transfer of structures from a first language to a second language but as one of a number of cognitive mechanisms which underlie second language acquisition. Thus according to Kellerman (1979. 1983), language transfer exists as a cognitive process but in Schachter's (1983) view, transfer which might be viewed as a communicative strategy is a constraint on the acquisition process. What Schachter seems to be suggesting is that a learner's previous knowledge acts as a constraint on the hypothesis he would form about a target language.

We noted that *interference* within the CA hypothesis was regarded as a mechanical transference of habits from the source language to the target language and that second language learning was a process which involved the replacement of the old habits by the new habits. The conclusion we draw from this theoretical standpoint is that CA hypothesis borrowed some ideas from the then popular behaviouristic psychology which is discussed in section 2.2:0.

2.1:0

.3 The Updated Version of CA Hypothesis.

The strong version of CA hypothesis seems to be applicable within the markedness theory which we shall discuss in section 2.7:0.5. This involves a theoretical elaboration of the types of hypotheses learners make about a target language. It would appear that Corder (1968) had an inkling of what learners do in the process of acquiring a second language. He said:

> Learners need only hypothesize whether the first language system and the second language system are the same or different. And if they are different, what is their nature?

In general, learners assume that the second language is equivalent to the first language. Consequently if the L_1 is unmarked in some respect the learners treat L_2 as unmarked in that respect. Such an assumption may lead to cross linguistic errors particularly if L_1 and L_2 are incongruent. The form of the first language is therefore of crucial importance because it is the basis for the learners' initial L_2 grammar.

If L_1 is unmarked and L_2 is marked; the learner assumes that there is a marked setting in the target language. He will therefore require positive evidence - the presence of relevant data - so as to fix the particular parameter. On the other hand, if L_1 is marked and L_2 is unmarked , the learners' initial L_2 grammar will be marked. Consequently cross-linguistic errors will be made and the learner will require negative evidence e.g. the absence of the marked property in the target language - so as to unset the parameter.

This theory constitutes an updated version of CA hypothesis (Buren and Smith 1985). It will become clearer in our discussion of markedness - Section 2.7:0.5.

2.2:0 Behaviourism And Language Learning

Behaviourism belongs to a very influential branch of psychology which used *controlled observation* for the purpose of discovering and explaining laws of behaviour. Among the prominent behaviourists was Thorndike who proposed that learning consisted of the establishment of associations between particular aspects of behaviour and the consequences of that behaviour. It is this behaviouristic theory which was incorporated in pedagogy and language learning was viewed as an association of responses to some stimuli. But the theoretical formulations of language learning within the behaviouristic paradigm is to be found in Skinner's (1957) book - Verbal Behaviour.

The central tenet within the Skinnerian behaviouristic approach was that linguistic behaviours were acquired through operant conditioning such that each utterance follows some sort of verbal or non-verbal stimulus. An important factor within this theory is the frequency with which an utterance is repeated around the learner's environment. In order to learn a language, children needed to imitate the utterances which were repeated around them. In addition, reinforcement is needed so as to enable learners to make progress. One of the sources of reinforcement was parental approval. Besides this, language learning was

seen as transferrable such that what is learnt has transfer effects on that which has to be learnt next. It is evident from these discussions that contrastive linguistics borrowed some of the behaviouristic theories so as to explain how children learn a language. For instance, the transfer phenomenon could be accounted for within the behaviouristic framework.

The contrastive analysis hypothesis and behaviourism held sway over the field of applied linguistics until Chomsky (1959) reviewed Skinner's *Verbal Behaviour*. He raised strong objections against Skinner's claims that utterances can be seen as learned responses to stimuli. Chomsky concluded that the behaviouristic theory was irrelevant in explaining linguistic behaviour and that the concepts used in the theory were not clearly defined. Furthermore some of the notions had been incorporated into the behaviouristic theory from the traditional grammar which was unpopular. This, according to Chomsky, created more confusion rather than contribute to our understanding of language acquisition process. The strong criticisms from Chomsky were the death-blow to the Skinnerian theory. Unfortunately, Chomsky did not offer a more convincing theory immediately. The effects of his revolution in linguistics are summarised aptly by Gregg (1984) as creating a vacuum as far as theory on second language acquisition is concerned.

But one of his major contributions was in the view he expressed about the role of a child in language acquisition process. Chomsky declared:

> ...a refusal to study the contribution of the child to language learning permits only a superficial account of language acquisition, with a vast and an unanalysed contribution attributed to a step called 'generalisation' which in fact includes just about everything

> of interest in this process. If the study of language is limited in these ways, it seems inevitable that major aspects of verbal behaviour will remain a mystery.
>
> 1959:58

In spite of the scathing criticisms which had been directed against behaviourism, some of its principles continued to be used especially in *Programmed Instruction.* For instance, diehard proponents of the behaviouristic theory such as Staats and Staats (1962,1963,1968) used the notions "operant learning, reinforcing stimulus, successive approximations, discrimination and generalisation".

But the most important discovery among linguists was that children exhibit similar patterns of development and that they use similar processes when constructing new utterances in a target language. Garrett and Fodor (1968) rightly stated that languages are abstractions which children acquire from masses of highly variable data. Consequently language acquisition is a mentalistic process and the simplistic stimulus-response-reinforcement paradigm cannot be used to account for language acquisition. The new wave of interest that was beginning to emerge was a mentalistic view to language learning and that a language learner is creative. This led to the notion 'interlanguage' and the 'creative construction model' which are discussed in sections: 2.4:0 and 2.7:0.1 respectively.

2.3:0 Error Analysis Movement.

Error Analysis (EA) is closely associated with the weak version of CA hypothesis which as we have seen tried to explain the causes of errors. But the main difference between the two is that whereas contrastive analysis attributed errors to interlingual transfer or interference; error analysis attributed errors to all possible causes. In fact, it was only after errors had been made and analysed that the error analysts tried to find the specific causes.

Although EA is regarded as a relatively recent introduction to second language acquisition, it has a fairly long history particularly in first language acquisition. Tran-Thi-Chan (1975:11) claims that it was initially developed in the teaching of mother tongues between 1915 and 1933. According to him, lists of common errors provided the basis for the selection of essential materials which were incorporated in syllabuses.

But the error analysis movement within second language acquisition began with Corder's (1967) initial arguments for the significance of learner's errors. Its widespread appeal must be seen within a historical context. It came immediately after the Chomskyan revolution in linguistics which led to the older models being discarded for their inadequacies and Error Analysis promised to fill the vacuum. Corder(ibid) suggested that errors are significant in three different ways. Firstly, to the teacher, in that they tell him how far towards the goal the learner has progressed and consequently what remains for him to learn. Secondly, they provide a researcher evidence of how language is learnt and thirdly, they are indispensable to a learner himself because the making of errors is a device a learner uses in order to learn.

The immediate consequence was that errors ceased to be regarded as unwanted deviations. They came to be regarded as part of the language learning process. It is apparent that the EA movement required specialised notions to explain the causes of errors within the perspective of language learning process. The error analysts could not turn to the older models which had been discarded. Instead they turned to cognitive psychology and borrowed some ideas which became incorporated in the theoretical framework of EA. For instance, Chomsky's (1965:47) notion of a language acquisition device (LAD) or what Selinker (1972) came to refer to as a latent psychological structure (LPS) were used to explain language acquisition process.

The central claim is that human beings possess an internal mechanism which is of unknown nature but its role is to enable a language learner

to construct a grammar of a particular language from the limited data available to him. This view had been expressed by Slobin (1966) who claimed that a child is born not with a set of linguistic categories but with some sort of process mechanism i.e. a set of procedures and inference rules that he uses to process linguistic data.

Since the new perspective views a language learner as trying to apply a language acquisition device, a learner cannot therefore be regarded as a passive reactor to external stimuli but as an active and creative participant in the language acquisition process. The errors which result from a learner's attempted production of a target language must therefore be seen as evidence that learning is taking place. It is Corder (1974) who came out with a theoretically sound working definition of error analysis. He suggested that:

> the study of errors is part of the investigation of the process of language learning. In this respect it resembles methodologically the study of the acquisition of the mother tongue. It provides us with a picture of the linguistic development of a learner and may give us indications as to the learning strategies.

Besides this Corder made a distinction between *errors* and *mistakes*. The unsystematic deviations which are caused by such factors as memory lapses, fatigue, slips of the pen etc are "mistakes" but systematic deviations which are caused by a learner's insufficient knowledge of the target language are "errors". This means that it is the errors and not mistakes which are evidence for the processes involved in second language acquisition.

Error analysis is important because it marks the beginning of the study of language acquisition as a process and the characteristics of the learner that play a role in the development of a language learner's language or 'interlanguage' which is discusssed in section 2.4:0.

2.3:0

.1 Weakness of Error Analysis

We have discussed how the strong version of CA hypothesis was discredited because of its inadequacy to predict errors. We have also discussed how behaviourism lost ground within linguistic circles because it could not explain the process of language acquisition. Like these two models, Error Analysis was found to have some weaknesses.

One of its most serious weaknesses lay in the lack of precision in the methodological procedures leading to perennial disagreements among linguists on whether some expressions should be taken as erroneous or not. But Hammarberg (1972) suggested that this problem was a difficult one only in the area of phonology because it was not always easy to decide on the norm against which the supposedly identified error might be contrasted. Some linguists, notably Strevens (1972), held the view that identification of errors was a subjective exercise and that the degree of prescriptiveness of an individual error analyst greatly affected the number of errors he categorised.

Furthermore, even where errors are identified, there is still the problem of error classification. One of the classic examples which is quoted is: *He asked a new book.* An error analyst might reconstruct this expression to one of the following: *He asked for a new book* or *He requested a new book.*

This problem could have been resolved had error analysts adopted Corder's insightful ideas. He said that the recognition of errors depends crucially upon an analyst making a correct interpretation of a learner's intended meaning in a context. This is the reason behind his suggestion that only communicatively elicited data should be used in language acquisition studies. He went further to suggest that researchers should consult learners whenever possible but where this is not possible a researcher may rely on 'inference' to decipher the intended meaning. Reliance on inference has its own weakness because a researcher cannot arrive at what Corder (1974) called 'authoritative

reconstructions' nor can he make 'authoritative interpretations' of the learners' intended meaning.

Another weakness in EA is its exclusive emphasis on the systematic deviations i.e. errors. Many linguists criticise this approach because the non-errors also constitute part of a learner's production of a target language. Hammarberg (1972) raised his objections to this biased treatment of a learner's output and said that it is arbitrary and inadequate. He pointed out that this inadequacy has far reaching implications in pedagogy because both errors and mistakes (Corder's distinction) are supposed to reveal to the teacher what are the points of difficulty in a TL and therefore what to teach; and may be in what sequence.

Other linguists - Schachter (1974) and Kleimann (1977) - pointed out that Error Analysis is inadequate because it fails to account for such communicative strategies as *avoidance*.

In spite of these criticisms and weaknesses, EA is still important in interlanguage studies which focus on the types of errors learners make for the purpose of discovering the processes and strategies involved in language acquisition.

2.4:0 Interlanguage

We have noted that the Error Analysis Movement tried to analyse and categorize errors and that attempts were made to explain the causes of errors. Although sporadic reference to the language acquisition device was made, this was not developed as a theoretical model which would fully and convincingly explain the causes of errors and in general what was the underlying language learning process.

The development of the notion interlanguage (IL) as a theoretical construct that tries to explain the process involved in language acquisition must therefore be seen as an attempt to fill the gap we have alluded to. It is Selinker (1972) who coined the term Interlanguage. His point of departure is a strong claim that although a language

learner focusses on the norms of a target language, he never succeeds in acquiring native competence. Consequently a learner's language is erroneous in various aspects because it is not identical to the utterances which are made by a native speaker of the target language.

In order to explain this anomaly, Selinker borrowed the notion *latent psychological structure* (LPS) from cognitive psychology. This is similar to Chomsky's language acquisition device. He developed the hypothesis that a latent psychological structure exists in our cognitive faculty. The LPS is activated when one tries to learn a second language but because of its inefficiency the LPS does not make exact translations from the native language nor does it enable a language learner to make utterances which are similar to those made by native speakers of the target language. Selinker used the notion interlanguage to refer to the peculiar utterances made by a language learner. He defined it as:

> ...a separate linguistic system whose existence we are compelled to hypothesize based upon the observed output which results from the learner's attempted production of a target language norm. p.35

Corder (1981:17) has presented an interlanguage as in the figure below.

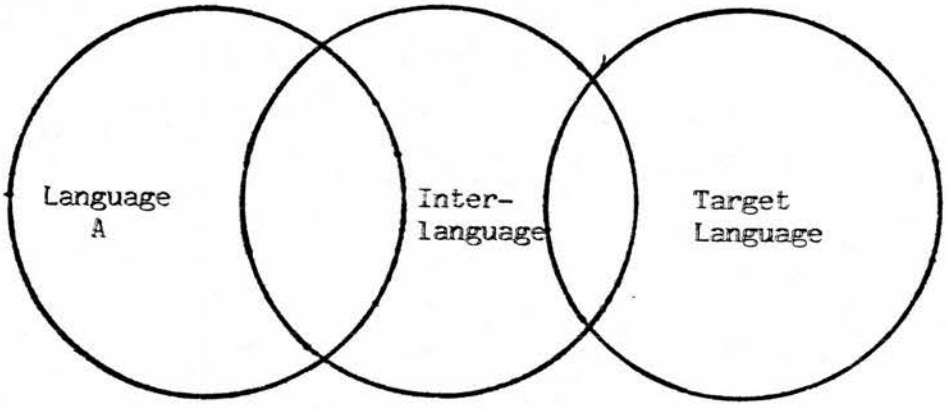


Figure 2.1 Interlanguage [An adaptation from Corder 1981:17]

Selinker (1972) gave a detailed elaboration of the notion interlanguage as a theoretical model which tries to account for the processes involved in language learning. He claimed that the errors which learners make might be attributed to the five key language learning processes. To begin with, whenever a learner's output has features which can unambiguously be attributed to the native language, then the language learning process used is that of *language transfer*. This seems to be similar to the notions "interference" and "borrowing" which had been proposed by Weinreich and Haugen. On the other hand, if erroneous utterances result from the training a language learner has been exposed to, then the process of *transfer of training* might be used to explain such error types. Thirdly, language learners have idiosyncratic ways of approaching language learning before them. Some errors might result from the peculiar *strategies of second language learning*. Besides these processes,Selinker claims that each learner has his own ways of approaching the communicative task with the native speakers of the target language and that the *strategy of second language communication* might cause some specific types of errors. Finally language learners are known to make analogies about the target language rules and this leads to analogical errors which might be explained in terms of *overgeneralisation*.

In addition to these key language learning processes, Selinker hypothesized the existence of what he called *fossilization*. According to his hypothesis, fossilized linguistic phenomena are the items, rules and subsystems which speakers of a particular native language tend to keep in their interlanguage relative to a particular target language. Such fossils tend to exist in IL no matter the age of a learner or the amount of instruction or exposure he receives in the target language. The notion was extended by Selinker to include those features though absent from a learner's speech under normal conditions, tend to appear when a learner has to deal with relatively more difficult linguistic materials or when a learner is in a state of anxiety. This model seems to provide a more comprehensive psycholinguistic approach to language learning as a process. The systematically deviant forms are viewed as constructive features in a language learning process and it is perhaps for this

reason that Corder (1981:56) came to propose that "a language learner at all points of his learning career has *a language* in the sense that his behaviour is rule governed and therefore, in principle, describable in linguistic terms".

In the next two sections we shall review some case studies that have investigated language acquisition.

2.5:0 Morpheme Acquisition Studies

Although morpheme acquisition studies within the interlanguage hypothesis is a relatively recent field of inquiry, interest in language acquisition and in particular second language acquisition, has a fairly long history. The case studies reported here are divided into two groups: *early* and *recent*. Most applied linguists might accept that two papers: Corder (1967) "The Significance of Learners' Errors" and Selinker (1972) "Interlanguage", mark the beginning of what I have called 'recent' morpheme acquisition studies. All the studies that preceded Corder's paper will be treated as 'early' morpheme acquisition studies and those that were reported after Corder's paper are regarded as 'recent'. This approach will highlight the theoretical and methodological differences and shed light on how linguists have improved their understanding of second language acquisition. Most of the early case studies tended to concentrate on the description in very broad terms of the linguistic development in a child. Recently, however there has been more concern with specific topics in phonology, morphology, syntax etc. and the errors which learners make have been used for the purpose of explaining the strategies and processes involved in language acquisition.

2.5:0 .1 Early Language Acquisition Studies

One of the earliest language acquisition studies is that of Volz (1907) who reported his three year old child's acquisition of German as a second language. The child was a German but born in Sumatra where he acquired Malaysian as his first language. Then the parents moved to

Germany where the child was exposed to German as L_2. Voltz reported that the child displayed the sounds and intonation patterns of Malaysian on his L_2. This seems to support the notions expressed by Weinreich, Haugen and Selinker.

Kenyeres (1938) observed her 6½ year old daughter acquiring French after having acquired Hungarian as her first language. She reported that the child's acquisition of French phonology was remarkably rapid but there was evidence of transfer from L1 to L2. The child made errors that showed that the strategy of overgeneralization had been used.

Malmberg (1945) made a relatively more detailed account of the acquisition of Swedish by a 4½ year old Finnish speaking girl. The girl's considerable difficulty with the Swedish sound systems was attributed to the interference from the first language. With regard to morphology, the girl was reported to apply Finnish suffixes to Swedish stems. This was even after the Swedish suffixation system had been learned. Such evidence seems to be in support of Selinker's "fossilization" in which certain structures remain relatively permanent in the Interlanguage. Furthermore Malmberg reported that the girl acquired the correct syntactic placement of Swedish preposition much later - supporting the view held in morpheme order studies that it is easier to learn certain features than it is to learn others. Malmberg's contribution is also important in another respect. He set out *stages* in the acquisition process which might be seen to agree with the popular developmental stages. These were:-

STAGE 1

Substitutions of Finnish noun stems by Swedish noun stem with Finnish endings.

STAGE 2

Swedish noun stems receive Swedish endings but followed by Finnish postpositional as before.

STAGE 3

Finnish postpositional is replaced by a Swedish preposition following the noun and its suffix.

STAGE 4

The preposition is correctly placed.

Cited in McLaughlin (1978.101)

Tits (1948) conducted a longitudinal study of a six year old Spanish refugee girl learning French as her second language and reported that the girl's developmental stages in the second language were similar to those observed in children acquiring French as a first language.

Berko's (1958) research was on child acquisition of English morphology. Her work is different from the case studies reported above because her subjects were acquiring English as a first language. Berko's research has been quoted extensively in subsequent publications: McNeill (1966), Templin (1966), Lenneberg (1967), Griffin (1968), Lane (1968), Goodglass (1968) and her basic research design has also been used Kernan and Blount (1966), Anisfeld and Tucker (1967), Natalicio and Natalicio (1971).

The popularity of her work is based on a number of factors which might be summarised as follows:

(i) She invented a set of materials that provided a complete inventory of the English inflectional system.

(ii) She set out to investigate the acquisition of specific linguistic areas such as plural inflections on nouns and tense inflections on verbs.

(iii) She defined her sample and grouped it according to age.

(iv) She attempted to find out whether age had causal effects in the acquisition of the structures investigated.

The systematic errors which were observed in her study showed that children use construction rules.

Valette (1964) researched on the acquisition of French by an American child who was in an immersion kindergarten from 9 to 5 each day. Although the child had an American English accent on French words intially, Valette found out that the boy acquired an authentic French accent after nine months. "Authentic accent" should be interpreted as near-native or native-like. Valette also reported that the child acquired lexis remarkably fast. In morphology the verbs were acquired in the following order:

$$\left[\text{Verb} \begin{cases} + \text{ Singular} \\ + \text{ present tense} \end{cases}\right] > \left[\text{Verb + Plural}\right]$$

Such an order of acquisition is popular in contemporary second language acquisition studies particularly because it shows an implicational interlanguage continuum.

Most of the early case studies which we have reported were similar in one important respect. They did not address themselves to specific questions of a theoretical nature. Consequently the accounts made were very general. But the language acquisition studies carried out after the mid 1960's and leading to the famous study by Brown (1973) were more systematic in their investigatory techniques and refined in their methodological procedures of data collection and analysis.

2.5:0

.2 Recent Language Acquisition Studies.

The recent language acquisition studies are similar to that of Malmberg (1945) and Berko's (1958) in that they are centrally concerned with specific problems of theoretical interest - particularly the processes and strategies involved in language acquisition.

Ravem (1968) studied the development of certain English syntactic structures in the speech of his 6½ year old Norwegian speaking son. He elicited data via natural communication and reported that the child's

acquisition of the structures was similar to the developmental sequence which is observed in English speaking monolinguals. In his (1974) study Ravem investigated the development of wh-questions in the speech of his son and daughter. His results showed that the errors made by the subjects reflected the target language rather than the source language. He found out that *do* as a tense maker was acquired through four developmental stages viz:

(i) *do* occurred in the context of isolated verbs.

(ii) *do* occurred in the context of and as a variant of *you*.

(iii) *do* emerged as a tense carrier.

(iv) *do* emerged as a separate linguistic structure with a present and past form.

Dato (1970) studied the acquisition of Spanish by seven English speaking children whose ages ranged from 4 to 6½ years. He reported that like L_1 speakers, the Spanish acquirers of English failed to invert subject - verb in questions. He tried to explain the language acquisition process using the Transformational Grammar by saying that *base structures* are acquired first and only later are the *transformed structures* acquired. This explanation raised a lot of criticisms especially from Dulay and Burt (1972), who argued that Transformational Grammar is not a grammar of human competence. Unyielding to his critics Dato (1971) went further to suggest that second language acquisition, like first language acquisition is characterised by a general trend of increasing complexity such that simpler forms are acquired before the more complex ones.

The emergence of studies based on "Performance Analysis" also called *Morpheme Acquisition Studies* changed the methodological approach to language acquisition research particularly in L_2. They were based on the evidence of a common order of appearance of a set of grammatical morphemes accurately supplied in obligatory contexts. Berko (1958) seems to have used this method but the two studies that played the

leading role in this direction were those of Brown (1973) and de Villiers and de Villiers (1973).

Brown (1973) collected longitudinal data in naturalistic communicative situations from three children - Adam, Eve and Sarah, who were acquiring English as their first language. He investigated the acquisition of the following morphemes:

present progressive	contractible copula,
uncontractible copula	past regular
past irregular	third person irregular
third person regular	contractible auxiliary
uncontractible auxiliary	article
in, on, plural	possessive.

His findings demonstrated that there was a uniform sequence in the acquisition of the 14 morphemes. This implied that child acquisition of language is governed by some universal cognitive mechanisms which are responsible for the invariant order of acquisition. After an exhaustive analysis of semantic and grammatical complexity of these functors, Brown concluded that the invariant sequence is dependent upon the relative complexity of the functors.

Besides these results, Brown's work is important in that he spelled out a methodological procedure which became widely used thereafter. He said:

> Each obligatory context can be regarded as a kind of test item which the child passes by supplying the required morpheme or fails by supplying none or one that is not correct. The performance measure, the percentage of morphemes supplied in obligatory contexts, should not be dependent on the topic of conversation or the character of interaction"
>
> Brown 1973:25

He went further to add that one sets an acquisition criterion not simply in terms of *output* but in terms of *output where required.*

Some of the weaknesses inherent in this methodology are discussed in section 2.5:0.3.

de Villiers and de Villiers (1973) While most of the preceding studies were based on observations from only a small sample, that of Jill de Villiers and Peter de Villiers elicited spontaneous speech data from 21 children. This study differed from that of Brown in two respects. That of Brown was longitudinal while that by de Villiers and de Villiers was cross-sectional. Secondly, Brown's acquisition order was established through longitudinal observational *counts* but the subjects in the latter study were scored in respect of *how accurate* they were in each morpheme.

The results in the two studies were remarkably similar and this led to the assumption that an accuracy order which is established cross-sectionally can be taken as similar to that which is obtained longitudinally.

Dulay and Burt (1973) They adopted the methodological procedures used in Brown's and de Villiers and de Villier's research studies to investigate the acquisition of a sub-set of the 14 morphemes by children acquiring English as a second language. They elicited data cross-sectionally using the Bilingual Syntax Measure (BSM), a technique which they had developed with Hernandez. The 151 subjects were 5 - 8 year old Spanish speakers located in three different geographical areas. The two linguists found out that children acquiring English as a second language in different areas, and having had different amounts and type of exposure to the target language showed a common order of acquisition. Dulay and Burt preferred to use *Accuracy Orders* rather than Acquisition Orders. They claimed that the orders did not appear to be influenced by the effects of instruction.

In a subsequent study Dulay and Burt (1974(c)) compared Chinese and Spanish speaking children's acquisition of eleven English morphemes with the aim of finding out whether the orders of acquisition are affected by the linguistic background of a language learner. They reported remarkably high rank correlations averaging +0.94. On the basis of this evidence Dulay and Burt claimed that universal cognitive mechanisms are responsible for a child's organisation of a target language and that it is the system of the target language rather than that of the child's native language which guides the acquisition process.

In their third study, (also in 1974) they tried to explain the notion *universal cognitive mechanism*. They claimed that each language learner has an innate language ability. The innate language ability seems to be similar to Chomsky's language acquisition device or Selinker's latent psychological structure. According to Dulay and Burt:

> ...children gradually reconstruct rules for the speech they hear, guided by universal innate mechanisms which cause them to formulate certain types of hypotheses about the language system being acquired, until the mismatch between what they are exposed to and what they produce is resolved.
>
> 1974:37

Like Chomsky and Selinker, the two did not offer us a satisfactory account of the exact nature of the innate mechanisms. This makes us conclude that their hypothesis is mainly speculative. But linguists were in agreement that the innate language ability reacts to the linguistic input a learner gets and creates a language system for a learner.

The hypothesis that universal cognitive mechanisms were responsible for language acquisition was based on evidence from child language acquisition studies. The immediate research question was whether adults use similar mechanisms. This is the question which the study reported below tried to answer.

Bailey, Madden and Krashen (1974) set two research questions:

(i) whether adults learning English as a second language will show agreement with each other in the relative difficulty of functors in English.

(ii) whether adult morpheme rank orders will be similar to those of children learning English as a second language.

They replicated the acquisition studies of Brown (1973), de Villiers and de Villiers (1973) and Dulay and Burt (1973). The subjects in the study were 73 adults who were drawn from 11 different languages. Using the Bilingual Syntax Measure, they elicited data from the subjects who were receiving instruction in the target language. Their results which are reproduced in the figure below showed high positive correlation between adult and child second language acquisition of the eight functors.

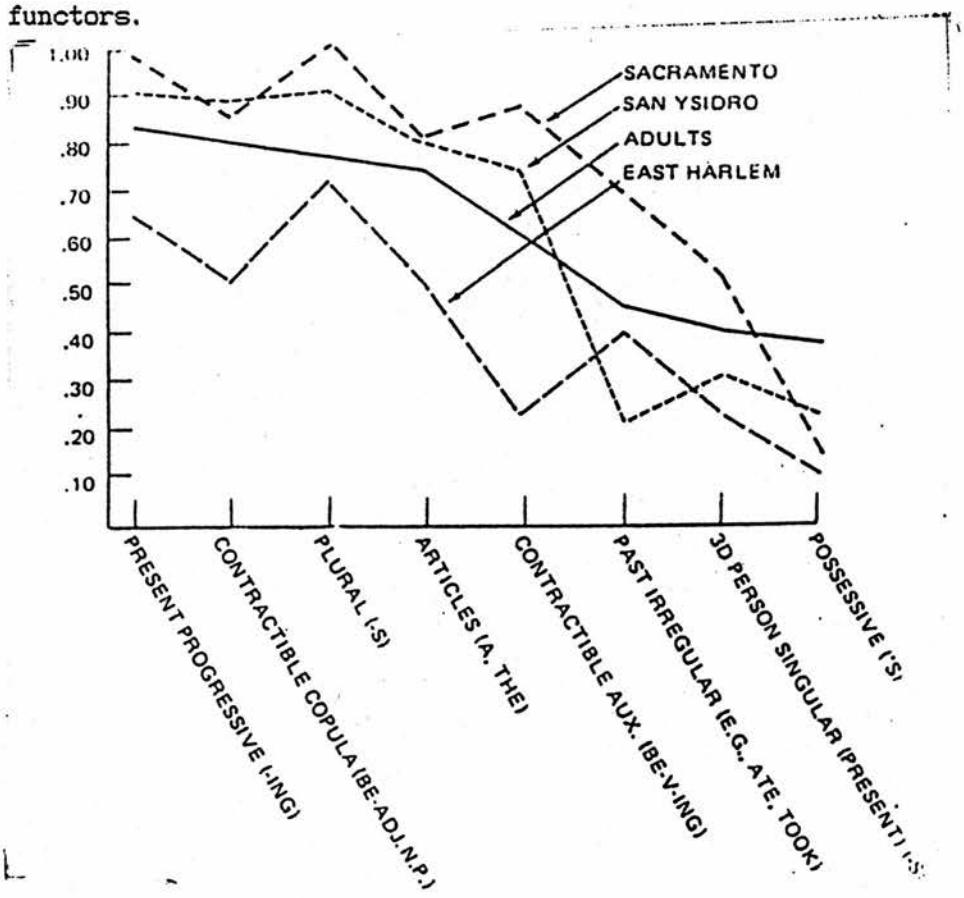


Fig 2:2 Comparison of Child and Adult Relative Accuracies for 8 Functors.
(Bailey, Madden and Krashen 1974.241)

These results were used to support the hypothesis that the differences in language background of learner, amount of instruction received and the age of the acquirer do not affect the acquisition orders. Bailey, Madden and Krashen went further to claim that what they had established supports the view that adults use common strategies and that adults process linguistic data in ways similar to those used by younger learners.

The effects of classroom instruction, age and L1 are discussed in Sections 2.6:0.2, 2.6:0.3, and 2.6:0.4 respectively.

Milon's (1974) study was a longitudinal investigation of the acquisition of the English negation by a Japanese boy. He compared the boy's developmental stages with the three acquisition stages which had been reported by Klima and Bellugi; (1966). Two main conclusions were made from the results of the study. First the child progressed through a similar route to that which is followed by children whose L1 is English. Secondly, since the Japanese language is different from English with regard to the system of negation and yet the learner did not seem to be using knowledge of his L1 background; then it is the target language which determines the course of development.

Cancino, Rosansky and Schumann (1974,1975) found some evidence which seemed to suggest that different processes are involved, at least, in some aspects of second language acquisition. The six Spanish subjects - two children aged 5, two adolescents aged 11 and 13, and two adults - showed no such inversions in yes/no questions as are reported to precede wh-questions in other acquisitional studies. Furthermore their stages in the acquisition of negation did not correlate with those observed by Klima and Bellugi (1966). These differences prompted Wode (1976) to suggest that 'acquisitional principles' should be applied with reservation.

Fathman (1975) designed a test: Second Language Oral Production Examination (SLOPE) so as to assess the ability of second language learners of English in the areas of morphology and syntax. Her main

interest was in finding out the relationship between the *rate* of acquisition and *age*.

The 140 subjects in her study were drawn from different linguistic backgrounds; they were receiving classroom instruction in English and were arranged into two age groups: the 6 - 10 year olds as the younger group and the 11 - 15 year olds as the older group. The subjects were rated on a 5 point scale for their accuracy in grammar, phonology and fluency. Her elicitation instrument had 60 items on the oral test and a pictorial description task. The results confirmed what Ervin-Tripp (1974) had stated that older children tended to use more complex rules; they possess more efficient memory heuristics and that they have greater knowledge than the younger children. The older children performed better than the younger ones on morphology and syntax but the younger group acquired English phonology at a faster rate than the older group.

Larsen-Freeman (1975) In spite of the abundant and convincing evidence which had been adduced in many case studies, Freeman expressed doubts about some of the results. She therefore conducted her own study in an attempt to answer three questions:

> (i) would the same acquisition order of morphemes, or indeed, any acquisition order be exhibited by adult E.S. L learners?
>
> (ii) would the acquisition order be found to exist if different data collection procedures were employed?
>
> (iii) would the data from other collection procedures be useful in helping to explain the morpheme ordering the Bilingual Syntax Measure consistently elicits?
>
> 1975:410

Her 24 adult ESL subjects were drawn from four different language backgrounds: Arabic, Japanese, Persian and Spanish. She used four data elicitaion procedures and the tasks included Reading, Writing, Listening, Imitation and Speaking. Each of these, she suggested, involved different

cognitive requirements. In order that she might answer question 2 and 3; she administered the Bilingual Syntax Measure.

Before she made her report, Bailey, Madden and Krashen administered the BSM to 73 adult ESL learners from different source languages and reported significant correlations. These results seemed to have provided an answer to Freeman's first question.

Although she reported that there were individual and inter-group variabilities; she also found that there were similarities in the order of acquisition of some morphemes. Consequently the linguistic background of the learners did not seem to have effects on the sequence of acquisition. She also found that the BSM produced higher correlations than the other tasks but it elicited similar orders of morphemes, not only for learners from different native backgrounds but for learners of different ages and with varying amounts of ESL instruction.

The immediate question that was raised was whether or not the BSM was a more reliable measure of morpheme ordering. This is the question which Porter (below) tried to answer.

Porter (1977) raised serious challenges on the validity of BSM. He argued that the results reflected the elicitation tool rather than actual linguistic development in learners. In order to support his claim he administered the BSM to eleven 2½ year old children acquiring English as a first language. This would enable him to compare the results of L_1 learners with those obtained by Dulay and Burt in their SLA study. He also hoped to come out with an accurate comparison of the strategies used by L_1 speakers with those of L_2 learners. Porter adopted this approach because Tarone (1974) had suggested that such a procedure would reveal whether the BSM affects the strategies used by learners. But his main argument was that:

> ...although the morpheme order found by Dulay and Burt with second language learners closely approximated that of Brown and de Villiers and de Villiers; the second language actual difficulty ordering was not exactly the same as that found in first language acquisition
>
> 1977:48.

Since the results in his study did not correlate with those of Dulay and Burt, Porter concluded that the sequence of morpheme acquisition which was reported by Dulay and Burt could very possibly be an artefact of the elicitation instrument i.e. B.S.M. Porter was not alone in raising these objections because Hakuta and Cancino (1977), Rosansky (1976) had also suggested that the adult order was in fact determined by the elicitation tool.

These claims raised a number of criticisms notably from Krashen.

Krashen (1978) reacted to the objections raised against the use of the BSM and the validity of the acquisition orders it produced.

In order to support the instrument he pointed out that more morpheme orders had been determined for L_2 learners in a variety of ways. These included:

(i) Krashen, Houck, Giunchi, Bode, Birnbaun and Strei (1977) with adults using *spontaneous speech*.

(ii) Krashen, Butler, Birnbaun and Robertson (1977) from adult compositions.

(iii) Andersen (1976) - adult *composition*

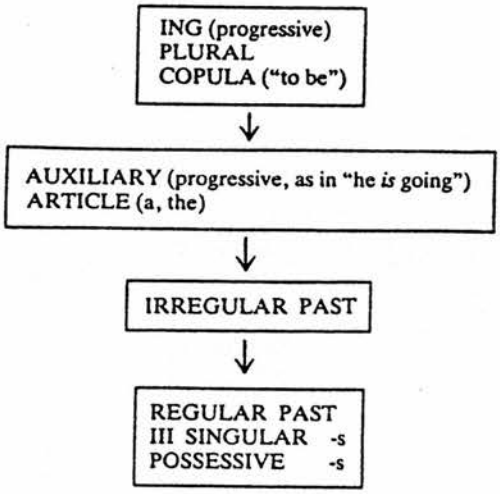
(iv) Rosansky (1976) - child and adult *spontaneous speech*.

(v) Kessler and Idar (1977) child *spontaneous speech*.

All these, he pointed out, showed agreement with the BSM for each morpheme analysed.

Krashen's (1981) Natural Order Hypothesis is based on evidence from a wide range of research studies: For instance Dulay and Burt (1973), Bailey, Madden and Krashen (1974), Andersen (1976), Krashen, Houck, Giunchi, Bode, Birnbaun and Strei (1977), Chistison (1979), Krashen, Sferlazza, Feldman and Fathman (1976), Kayfetz-Fuller (1978). He ordered a number of morphemes as they had been reported and proposed an *Average Order* of acquisition which is shown in the table below. It is from this order that he developed his *Natural Order Hypothesis*.

Table 2:A *"Average" order of acquisition of grammatical morphemes for English as a second language (children and adults)*



Notes:

1. This order is derived from an analysis of empirical studies of second language acquisition (Krashen, 1977). Most studies show significant correlations with the average order.
2. No claims are made about ordering relations for morphemes in the same box.
3. Many of the relationships posited here also hold for child first language acquisition, but some do not: In general, the *bound* morphemes have the same relative order for first and second language acquisition (ING, PLURAL, IR, PAST, REG. PAST, III SINGULAR, and POSSESSIVE) while AUXILIARY and COPULA tend to be acquired relatively later in first language acquisition than in second language acquisition.

Pica (1983) investigated the effects of different conditions of exposure on language acquisition. Her 18 adult native speakers of Spanish were arranged in three equal groups which represented three different conditions of exposure to the TL - viz: 1) Instructions Only, 2) Naturalistic Only and 3) Mixed (i.e. 1 and 2). The data which was elicited in conversations was scored and analysed using the method - suppliance of target structures in obligatory contexts (see chapter 4.3:0).

She focussed on the nine morphemes which are quoted in Krashen's (1981) Natural Order. (see Table 2.A). The results of her study are reproduced in the table below.

Morpheme	Krashen's natural order Rank	Instruction only SOC%	Instruction only Rank	Naturalistic SOC%	Naturalistic Rank	Mixed SOC%	Mixed Rank
Progressive *-ing*	1	97	1	94	1	98	1
Plural *-s*	2	93	3	74	5	74	4
Singular copula	3	95	2	92	2	97	2
Progressive auxiliary	4	85	5	76	4	66	6
Article	5	92	4	91	3	86	3
Past irregular	6	75	6	68	6	73	5
Past regular	7	51	8	58	7	44	7
Third person singular	8	63	7	25	8	22	8
Rank order correlations with Krashen's Natural Order		Instruction only: $r_s = .93, p < .001$					
		Naturalistic: $r_s = .82, p < .01$					
		Mixed: $r_s = .83, p < .008$					
Rank order correlations with Instruction Only group order		Naturalistic: $r_s = .90, p < .002$					
		Mixed: $r_s = .95, p < .001$					
Rank order correlation with Naturalistic group order		Mixed: $r_s = .93, p < .001$					

Table 2.B Correlations Between Rank Orders Of Different Groups

(Pica 1983:479)

She concludes that the conditions of exposure to a TL do not disturb the natural order of morpheme accuracy.

In our next section we shall focus on some criticisms which have been raised against results in SLA particularly the morpheme development studies.

2.5:0

.3 Objections to Some Aspects of SLA Research

Scepticism about the similarity between developmental sequences in L_1 and L_2 were raised by Politzer (1974). He found out that when his data were reanalysed after controls on length and correctness of utterance were introduced, the bilingual subjects in his study did not show the same developmental pattern as the monolinguals. This is not unusual because developmental orders are sensitive to the criteria a researcher chooses to use. But if similar criteria are used to assess L1 and L2 the orders reported should show similarities. He was right in pointing out that the tendency to view SLA as similar to first language acquisition should be clarified because whether the two are similar or not depends on whether certain attributes of a language learner have to be taken as having causal effects or not. For instance, a second language acquirer has already activated his language acquisition device. This is the view expressed by Ervin-Tripp (1974) who said that an older child, like a second language learner, has a more developed semantic system and what he needs in his acquisition of a second language are new symbolic representations of what he knows already.

Freeman (1975 (a) has criticized the use of *rank orders*. She suggests that we should use *accuracy orders* because this term is more precise in describing a measure of the percentage of times a subject accurately supplies a morpheme in obligatory contexts. But whether using accuracy orders rather than rank orders would change our perception of morpheme orders is rather dubious.

Rosansky (1976) raised several arguments. First, she was of the view that correlational statistics do not make much sense in cross-sectional studies. She went further to observe that although there was correlation between the first two studies of Dulay and Burt (1973) and (1974) this was not the case with the third study involving the Chinese sample. She points out that the evidence for the invariant orders of morpheme acquisition was taken from the studies that showed correlation but the study that did not show agreement with others was disregarded.

Secondly, Rosansky argued that cross-sectional orders do not match longitudinal orders. In order to support her claim she contrasted the order of morpheme reported in the study by Casden, Cancino, Rosansky and Schumann (1975), Dulay and Burt (1973), Bailey, Madden and Krashen (1974), and de Villiers and de Villiers (1973). She concluded that there are discrepancies between orders in cross-sectional and longitudinal studies.

In response to these arguments, Krashen (1977) (b)) maintains that when morpheme accuracy counts based on fewer than ten obligatory occasions are excluded from analysis there is fairly good agreement between longitudinal and cross-sectional studies. This also means that in order to reduce the amount of variation among subjects those who show very few obligatory contexts should be excluded. The Group Mean Method which is discussed in our Chapter Four tries to reduce the amount of variation. For example: Dulay and Burt (1974:45) who introduced this notion excluded all the children who had fewer than three obligatory occasions but Porter (1977:52) excluded those who did not have more than two obligatory contexts. Although no optimal number of obligatory contexts has been agreed upon it is a truism to say that the fewer the number of contexts observed, the less reliable is the order obtained.

Another objection raised against the morpheme orders is that dealing with functors only in obligatory contexts may fail to reveal some aspects of language acquisition particularly the intermediate forms that acquirers go through (Fathman 1979).

Krashen admits that this is a strong criticism because the observed order is the result of an interaction of developing processes which normally have transitional constructions. But many morpheme order studies fail to portray the pathway which a language learner takes.

In recent years however, many researchers use such techniques as the implicational scaling, and also the notions implicational interlanguage

continuum and variable rules so as to capture the interim grammar of a language learner.

The choice of morphemes which have been used in most morpheme studies has attracted criticisms from Andersen, (1977) Fathman (1979). Long and Sato (in Davies et al (1984)) cite evidence from Brown (1983). Andersen feels that most of the researchers still concentrate on the original set of morphemes and that this limits the scope on which we can make generalisations about second language acquisition. Fathman says that the number of morphemes is small and the choice often depends on ease of elicitation and quantification. Brown extended this criticism and said that since the morphemes form a very small and insignificant proportion of the total language, we should not make global judgements about language acquisition. Furthermore, Fathman (1979) and Wagner-Gough (1978) claim that researchers have not tried to relate morphemes to their communicative functions. Wagner-Gough points out that his 5 year old child produced the morpheme *-ing* but the child did not show evidence of knowing the 'function' of the morpheme.

Besides these criticisms Andersen added that:

> we have lumped together morphemes which should not be grouped together, and separated others that should not in a normal second language learning situation.

This is true because when we place all the articles in one rank we conceal a lot of information about the learner's variable performance on the definite article (the), the indefinite articles (a/an) and also the zero article. In addition to this, rank orders place the morphemes equidistantly such that a difference between rank 1 and 2 is assumed to be the same as that between 5 and 6. The argument can also be extended to the arbitrary criterion score for *acquired* and the binary representation of the results such that those shown with a *zero* are assumed *not acquired* and those with *a one* are regarded as *acquired*. Two subjects: one with a score of 20 and the other with a score of 79 are grouped together as *not acquired* if the criterion point for acquired is 80. But the subject who is scored 79 has developed closer to the

acquisition point than the subject who is scored 20. Such variabilities are concealed by the binary technique.

Lee (1978) argues that although the Bilingual Syntax Measure was designed to elicit natural speech from children, it does not adequately measure the whole spectrum of natural speech because of its character of interaction. The BSM requires subjects to supply an *Answer Mode* of speech yet in a communicative situation there are other modes such as: *asking questions, descriptions, giving commands* and *making proposals.* Lee offered evidence to support his claim by scoring two Korean speakers learning English. The elicitation technique contained what he calls *Answer Mode* and *Creation Mode.* His findings which are reported in the table below show that the subjects had better performance scores in the Answer Mode than in the Creation Mode.

	SUBJECT A		SUBJECT B	
	ANSWER	CREATION	ANSWER	CREATION
Auxiliary	38	20	50	33
Progressive-ing	33	23	50	75
Pronoun Case	89	61	86	77
Article	81	36	50	42
Short Plural			78	24

Table 2:C Accuracy % of Answer Versus Creation Modes.

[CHILD LANGUAGE 1981:269]

On the basis of this evidence Lee's objection to the morpheme orders was that:

> The character of interaction on which the performance measure; the percentage of morpheme supplied in obligatory contexts, should not be dependent, is a variable on which the performance is indeed dependent.
>
> 1981:267

The scoring system which was introduced by Brown (1973) and adopted in many subsequent research studies disregards the suppliance of a

morpheme in non-obligatory contexts. This has been criticised by Lee (1978), Long and Sato (1984) who also cite evidence from Andersen (1982 (b)). This scoring system ignores the fact that a subject who supplies a functor such as -s plural for both singular and plural contexts would end up being scored 100 and be regarded as 'acquired'. In reality such a subject has not acquired the morpheme because he does not observe the distributional restrictions of the morpheme.

Finally, Wode et al (1978), Long and Sato (1984) have claimed that morpheme order approach obscures important parameters in our understanding of second language acquisition process. One of these parameters is "avoidance behaviour" which is shown by learners in the process of acquiring a language.

In the next section we shall discuss a few factors which have been known to have effects on language acquisition.

2.6:0 **Causative Variables In Second Language Acquisition**

All normal human beings achieve native proficiency in their first language but they do not acquire native proficiency in a second language. This anomaly has prompted researchers to try and find out the causative variables in second language acquisition. We have noted the suggestion put forth by Selinker that when activated, the latent psychological structure does not make exact translations from the native language nor does it enable a language learner to make utterances similar to those made by native speakers of the target language.

Other linguists have proposed different explanations.

2.6:0

.1 Acculturation Factor

Schumann has presented a long taxonomy of the factors which might influence SLA. His list is reproduced as Table 1 in Gingras L.C (ed) 1978:28.

Schumann (1978 b)) holds the view that there are factors which facilitate SLA and others that seem to hamper the process of acquiring a language. He says that two groups of variables - social and affective combine into one variable which he refers to as *acculturation* and that this is the major causal variable.

Although it is difficult to show precisely how some of the variables within the 'Acculturation Factor' affect language acquisition, many researchers agree that a self-confident, secure person is a more successful language learner. Two measures of self confidence that are popular are: *anxiety* and *extroversion*.

Claim is made that a learner who is socially integrated and psychologically open to the target language group is likely to be a successful second language learner. One shortcoming of this explanation is that the language learner is seen within a host country i.e a naturalistic environment. The model is therefore not applicable in acquisition poor environments because there is no way of assessing whether a language learner is ready to integrate with the TL group.

2.6:0

.2 Effects of Classroom Instruction On SLA

Bialystok (1977) has suggested that second language acquisition within a classroom is affected by the characteristics of learners, the classroom environment and the interaction between the two. In order to

show how these factors interact, she developed a model of second language learning which is illustrated in the diagram below.

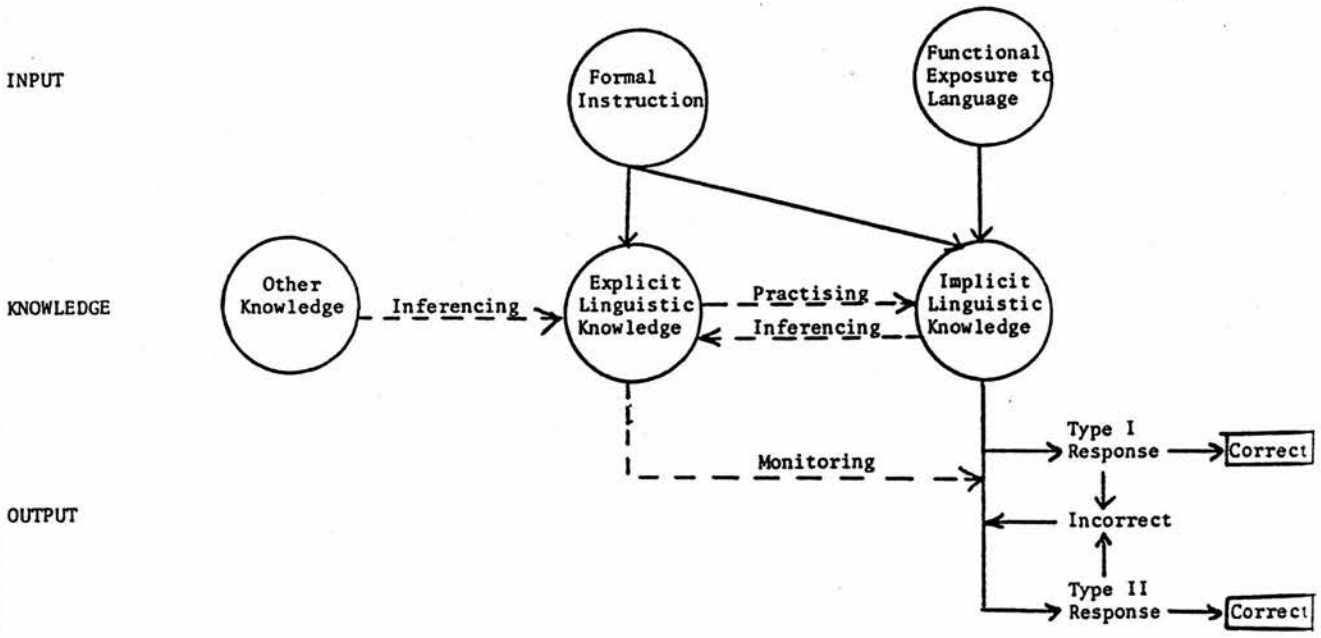


Figure 2:3 Model of Second Language Learning

Source: Working Papers On Bilingualism 1977 Vol 13

According to this model, there are three levels of functioning: INPUT, KNOWLEDGE and OUTPUT. The input refers to various types of exposure to the target language. The diagram shows that *formal instruction* is a source of input. The role of formal instruction is also underscored by Krashen (1982:33) who says that emphasis which is directed at increasing a learner's conscious linguistic knowledge of the TL leads to a realistic use of the language. The classroom serves as a source of comprehensive input for acquisition. This view is also expressed by Faerch et al (1984:192). Some researchers have addressed themselves to specific questions of a theoretical nature. For instance, Perkins and Freeman (1975) set out to find out whether learners who were not receiving formal instruction would have similar orders of acquisition as those receiving some instruction. Twelve Venezuelan students receiving ESL instruction (FORMALS) were compared with a group of L2 acquirers

without any instruction (INFORMALS). Most of the informals failed to turn up for the research exercise and there being insufficient data about them; the *formals* were assessed at different times in their ESL instruction. The conclusion drawn from the research results was that formal instruction does not change the order of acquisition. The results suggested that language instruction might result in improved performance but not necessarily a change in the sequence of acquisition.

Krashen (1976) cites many case studies (Upshur 1968, Mason 1971, Carroll 1971) in an attempt to support the view that classroom instruction affects SLA. These studies compared groups which were receiving ESL and others which were not receiving any instruction in the TL. According to Upshur there are no significant effects on language learning attributable to the amount of instruction a learner receives. But Carroll expressed a different view. He said,

> the attainment of skill in a foreign language is a function of the amount (of time) spent in its study
>
> 1976:160

More corroborative evidence has been adduced by Krashen and Selinger (1976), and Krashen, Selinger and Hartnett (1974) that when the effects of *exposure* and *formal instruction* are compared, it is reliably the case that more instruction leads to higher proficiency while more exposure does not necessarily mean increased proficiency. Exposure is taken to mean the time spent in *acquisition - rich environment* (i.e where the target language is spoken as L1 while the amount of instruction is the time spent studying the target language in acquisition - poor environments.

On the other hand Fathman (1976), Halle and Budar (1970) claim that instruction helps children as well as adults but it has the greatest advantage at the beginning levels and also in acquisition - poor environments.

Ellis (1984) has also addressed himself to the question whether or not instruction affects SLA and if it does in which ways. He suggests that instruction might be seen to affect three aspects of SLA: *route of acquisition*; *level of proficiency* and *rate of development*.

His study in the acquisition of wh - interrogatives by two Punjabi speaking children showed that instruction does not have effects on the route of acquisition. But according to Lightbown (1983) there are some positive effects on the route of acquisition. Some linguists claim that the effects are temporary because after some time a natural order eventually re-asserts itself. The implication of this is that classroom instruction does not have lasting effects on the route of acquisition.

Ellis (1984:147) continues to list down six case studies which support the view that classroom instruction affects proficiency levels in SLA. He also quotes three studies that reported that instruction does not affect proficiency in SLA. Ellis concludes that classroom exposure to the TL has some facilitative effects.

On the rate of development in SLA, Ellis quotes Perkins and Larsen Freeman (1975) who expressed the view that instruction may influence the rate of second language acquisition. According to Perkins and Freeman *rate* was viewed as an improvement in *performance*. It would appear that the two linguists were referring to improvement in proficiency but not rate. Ellis is dubious whether instruction affects the rate of SLA; but he seems to be of the view that instruction does not have causal effects on the rate of SLA. He says that there is insufficient evidence to decide whether SLA can or cannot be accelerated by instruction.

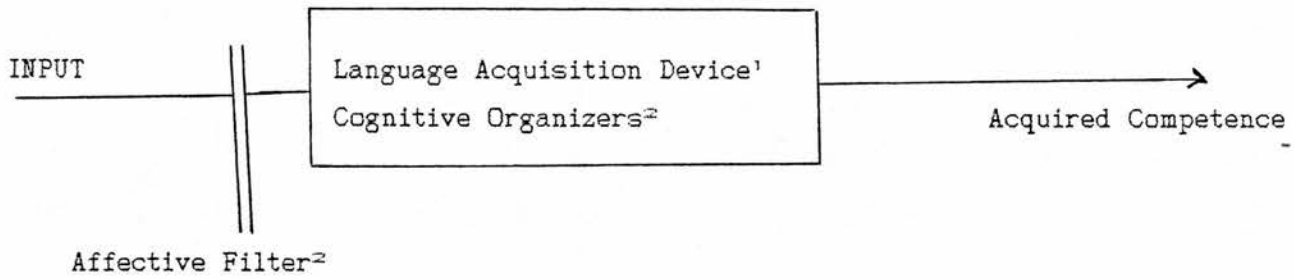
2.6:0

.3 Effects of Age On SLA

The idea of a critical period for language learning was proposed by Penfield and Roberts (1959). They maintained that the difficulty adults have in learning a second language is attributable to the completion of *Cortical Lateralization* at puberty. This idea was picked up and developed further by Lenneberg (1967) in his classic work: "Biological Foundations of Language". He hypothesizes that naturalistic SLA can take place only during the critical period - between the age of 2 and puberty. According to his hypothesis, the brain has not developed the capacities it needs for language acquisition before age 2, and that after puberty it has lost its cerebral plasticity because the process of cerebral dominance is completed. Lenneberg does not rule out that a person can learn to communicate in a foreign language after puberty; he maintains that automatic acquisition from exposure to the TL seems to disappear after puberty.

Krashen and Harshman (1972) and Krashen (1973) tried to disprove the critical period hypothesis saying that lateralization is completed much earlier than puberty - about the age of five. Although this evidence weakened the biologically based neurolinguistic hypothesis, many linguists continue to support the hypothesis. Els Theo van et al (1984:104) say that many people hold the view that children learn a second language more easily and more proficiently than adults. The same view is expressed by Faerch et al (1984:210) when they say: "the younger the learner the easier and better the learning of a foreign language".

Within this popular hypothesis, age is seen as affecting a learner's proficiency but not the orders of acquisition. Krashen attempted to explain the child's superiority in ultimate attainment as a function of the Affective Filter. In his Affective Filter Hypothesis Krashen (1982:44) explains the relationship between affective variables and second language acquisition. He illustrates this with the figure below.



Adapted from Chomsky 1964 (1); Dulay and Burt (2)

Figure 2:4 The relationship between affective factors and language acquisition.

Krashen 1981:110

One of the central claims in this hypothesis is that acquirers have varying strengths of the affective filter and that those with higher or stronger filters acquire less than those with low or weak affective filters. It is also hypothesised that younger acquirers have weaker affective filters than older ones. Consequently younger second language learners attain greater levels of proficiency in a TL.

As far as *rate* in SLA is concerned, there is conflicting opinion. The hypothesis that age has no causative effects on rate in SLA has been criticised by Krashen, Long and Scarcella (1979) who reviewed literature on this subject and concluded that the three strongly held generalisations are:

(i) adults proceed through the early stages of second language developments faster than do children (when time and exposure are held constant).

(ii) older children acquire faster than younger children (when time and exposure are held constant).

(iii) acquirers who begin natural exposure to second languages during childhood generally achieve higher second language proficiency than those beginning as adults.

Krashen 1982:43

Such claims become very important when decisions have to be made concerning the time at which the TL has to be introduced in classrooms. But one point is clear, that the TL should be introduced as early as possible.

The 'Competition Model' in section 2.8:0.6 tries to explain the effect of age on final attainment.

2.6:0

.4 Effects of Source Language On SLA

The question relating to the effects of a source language on second language acquisition was mentioned within the contrastive analysis hypothesis.

It was implied that language learning difficulty and language difference are directly and proportionally related such that those structures that are similar to a native language were assumed to be simpler to learn and those that are different were difficult.

The strong version of CA hypothesis was rejected because evidence showed that it lacked predictive power. But it has acquired renewed interest recently - (see 2.1:0.3). Oller and Redding (1971) provided empirical confirmation of the correlation between *language distance* and *learning difficulty.* They claim that the greater the distance between any two languages; the greater is the language learning difficulty. Supporting the same view but using different terms, MacKay (1972) suggests that the *scale of difficulty* is dependent on the inter-lingual distance.

These linguists have not explained what they mean by language distance. The assumption we make is that this concept is related to, if not similar to, the notion of *genetic relatedness* between languages.

On the other hand the notion 'scale of difficulty' is not given a statistical interpretation and we might make another assumption that it means the amount of restructuring a learner has to make in acquiring a second language. The implication is that the greater the language distance, then the greater is the scale of language learning difficulty.

The debate on the effects of the source language on SLA from the viewpoint of CA hypothesis has been revived by James (1980) who seems to be a strong proponent of CAH. He cites Cleveland et al (1960) who say:

> English L1 speakers learn French, German, Romanian, Spanish, and Italian in two-thirds the time they take to learn Russian, Greek, and Finnish and in half the time needed for Chinese, Japanese and Vietnamese.
>
> James 1980:187

The *language learning time* is assumed to be a valid measure of language learning difficulty such that the longer the time spent, the greater is the difficulty. This hypothesis seems to suggest that we can order languages from each source language along a continuum of increasing difficulty as in the figure below.

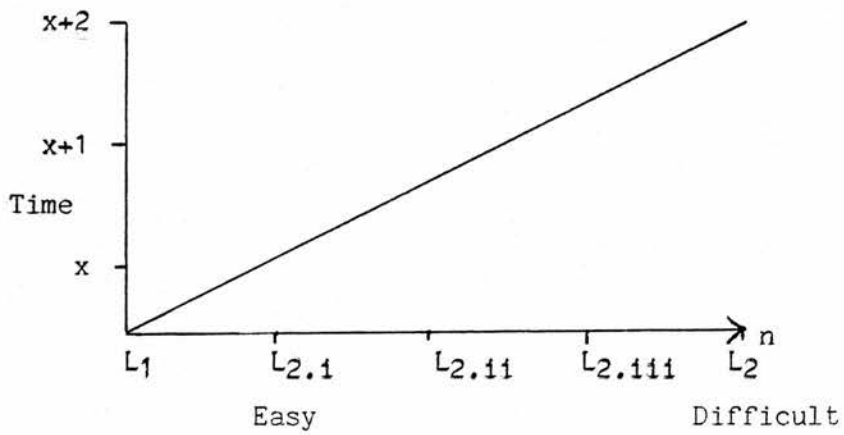


Figure 2.5 An Idealised Relationship Between SLA difficulty and Time

Since James does not convincingly elaborate on the root of difficulty, we can assume that his reasoning rests on the genetic relatedness which might exist between English and the languages he mentions. If this is so, those languages that are genetically related to English are easier to learn than those that are not.

A controversial hypothesis was proposed by Skaggs and Robinson (1927). Their hypothesis was developed by Osgood (1949) and extended recently by Whitman and Jackson (1972). The central claim, which is contrary to the popular view expressed in Contrastive Analysis Hypothesis, is that it is *relative similarity* rather than *difference* which is directly related to the levels of language learning difficulty. Instead of offering empirical evidence to support this hypothesis, the proponents of the hypothesis invoked what psychologists call the *similarity paradox* which states:

> if interference increases with similarity of the two learning tasks, then when the two tasks are identical, interference ought to be at its most potent
>
> James 1980:189

This paradox is represented as in the figure overleaf.

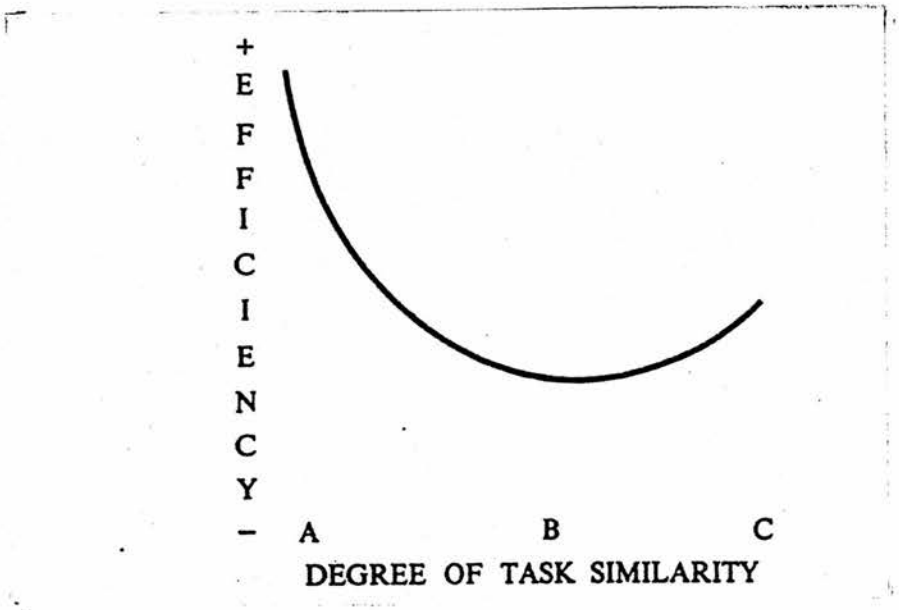


Figure 2:6 The Skaggs-Robinson Hypothesis

[James 1980:189]

It would appear that Corder (1981:11) was in support of this hypothesis because he says that 'the second languages that we may be least likely to master satisfactorily are those which are either the closest to or most distant from, our mother tongue. The first because we really never need to make the journey at all; and the second because the journey is too long ever to complete'.

The implication of Corder's hypothesis is that learners develop notions of a hypothetical distance between the NL and the TL. Whenever the hypothetical distance is assumed to be long the language learning task is assumed to be formidable and this makes learners 'give up' or experience a sense of despair even before starting the journey. On the other hand whenever the hypothetical distance is assumed to be short, a learner assumes that he *'knows'* the target language already. Consequently he does not put a lot of effort in the task of language acquisition.

The hypothetical distance which determines the magnitude of the language learning task is based on genetic relatedness between languages. Corder goes on to say:

> Genetically related languages are assumed to share a large number of rules, particularly in the more superficial aspects. Passage along the developmental continuum is therefore rapid...whereas in the case of unrelated (distant) languages differences exist along the whole developmental continuum, slowing down the speed of acquisition.
>
> (ibid., p. 101)

This hypothesis seems to be in support of the ideas expressed within contrastive analysis hypothesis because language learning task is assumed to be a function of structural differences or similarities that might exist between any two languages. Corder went further to suggest that the greater the degree of difference or distance, the greater the language learning task. It is also important to note here that one of the underlying assumptions in this hypothesis is that the starting point in SLA is the mother tongue.

This assumption is also made in the updated version of CAH (see section 2.1:0.3) and it seems to be quite popular within the markedness differential hypothesis (see section 2.7:0.5) and in Chomskyan paradigm (see section 2.8:0.7).

But our discussion on morpheme acquisition studies pointed out that speakers of different source languages experience similar difficulties in the process of acquiring a common target language. These conflicting ideas suggest that research in SLA should re-examine the results which led to these conclusions. But what seems to emerge is that transfer errors are caused by structural dissimilarities between L_1 and L_2.

In the next section we shall review some of the theoretical models which have been used to explain SLA.

2.7:0 Models of Second Language Acquisition

2.7:0
.1 Creative Constructive Model

Although the creative construction model was elaborated and applied to explain second language acquisition in the 1970's, it appears that its history dates back to Palmer 1917 who had expressed the view that children are creative. Mention that learners are actively involved in the acquisition process was also mentioned by Wolfe (1966) in section 2.1:0.1), Chomsky (1965) in section 2.2:0) and Selinker (1972) in section 2.4:0).

The model grew as a result of the growing demand to view second language acquisition as a process. The research findings that children drawn from different language backgrounds use common strategies led Dulay and Burt (1974 (b)) to argue that the similarity of the errors made by Spanish, Chinese, Japanese and Norwegian speaking children reflect a creative construction process. They said that 'children gradually reconstruct rules for the speech they hear guided by an internally driven cognitive mechanism'.

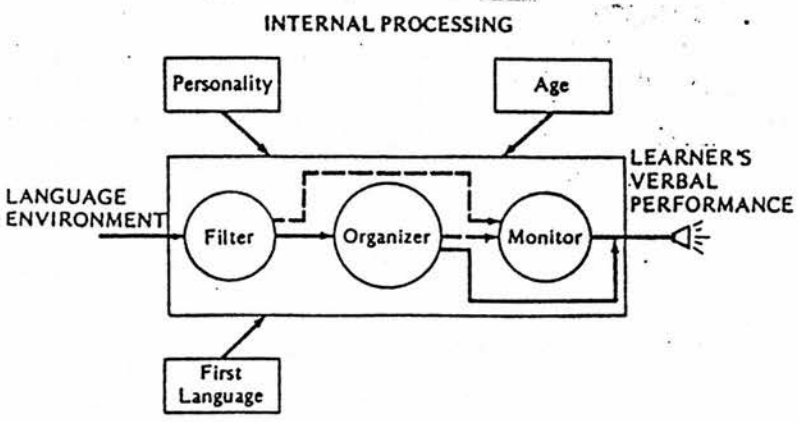
It would appear that Dulay and Burt borrowed this operational definition from Slobin (1966 (b):87) who had said that 'children are not born with linguistic categories but with some sort of process mechanism which they use to process linguistic data'.

Contributing to the theoretical formulation of the model, Corder (1967) suggested that the same mechanisms which are used by an infant in acquiring his mother tongue might also be used in the acquisition of a non-primary language. He went further to claim that the internal mechanism is of unknown nature.

Chomsky and Halle (1968) made a fruitless undertaking when they focussed on a description of a target language with the hope that they

would capture the universal cognitive structure. Then in 1974 Dulay and Burt set out to try to find the exact nature of the innate mechanism. They made two basic assumptions: First, that by describing a learner's developmental stages and then making inferences, they would be able to capture and explain the cognitive process. Second, they were convinced that it is the learner's errors which are a source of relevant information.

Although they did not offer an empirically testable account of the process mechanism, they admitted that the creative construction process is not directly observable. It can only be inferred from an adequate description of a learner's developing language. Not conceding to defeat, Dulay and Burt (1977) developed a representation of the model which we reproduce in the figure below.



*This is an updated version of the model presented in Dulay and Burt, 1977.

Figure 2.7 Working Model For Creative Construction in L_2 Acquisition

The exact nature of the process mechanism is still unknown to us. But there is growing evidence that the innate process cannot be captured in one model because its very nature makes it very complex. This will become clearer as we discuss Felix's competition model (see section 2.8:0.6), and Chomsky's Universal Grammar (see section 2.8.0.7).

-

2.7:0

.2 The Approximative Model

Nemser (1971) introduced and used the term *approximative systems* to refer to a deviant linguistic system which is employed by a language learner while attempting to utilize a non primary language. The term 'deviant' in this model does not connote an undesirable form as was the case within the CA hypothesis and behaviourism. Nemser used it to refer to a different, unique or non-target system.

According to this model a language learner processes a target language by constructing a unique system which approximates the target language. This seems to be the notion which Selinker (1972) picked up and developed within the interlanguage hypothesis. A language learner revises the approximative system and after each revision he makes progress in the direction of the target language. In brief, Nemser's model has three basic assumptions.

(i) a learner's speach is patterned. This might be interpreted to mean that a learner's speech has systematicity.

(ii) the approximative systems are in the form of an evolving series which reflect the successive stages a learner goes through in acquiring a specific target language structure. An approximate system is in the form of a continuum.

(iii) the approximative systems of learners of the same proficiency are similar and that variations might be caused by differences in learning experience.

2.7:0

.3 The Interlanguage Continuum Model

The concept 'interlanguage' was used by Selinker (1972) to refer to a hypothetical separate linguistic system which results from a second language learner's attempted production of a target language. An interlanguage has five key processes (see section 2.4:0). Selinker's use of the notion 'system' makes many linguists think that he conceived of a developmental continuum which must be seen changing in the direction of the TL. The five processes mentioned by Selinker suggest that a language learner is actively involved in processing the target language.

Corder (1981) has contributed immensely towards a clarification of the notion 'interlanguage'. One of the weaknesses which he notes in the initial formulation is that interlanguage did not have the property of increasing complexity. According to Corder, Selinker seems to have been thinking of a restructuring continuum whose starting point is the mother tongue and directed to the target language at the same level of complexity. This is illustrated as a lectal continuum in the diagram which follows.

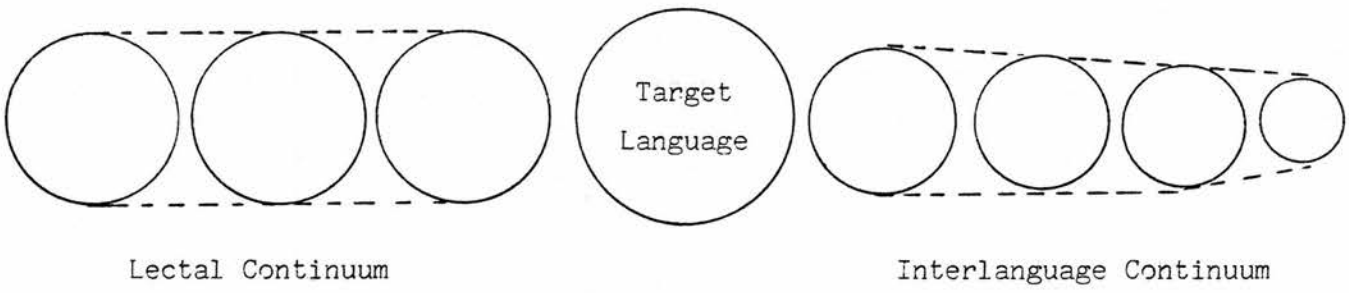


Figure 2.8 A contrast between Selinker's and Corder's Representation of Interlanguage

If Corder's criticism of Selinker's formulation of 1L is valid; then Selinker's narrow view would not adequately capture a learner's developing system towards the target language because an interlanguage should normally increase in complexity. An interlanguage which is characterised by increasing complexification involves not a restructuring but a creation process. Having developed these ideas, Corder (1981) offered a revised definition of interlanguage to read:

> "a dynamic goal-directed language system of increasing complexity"
> (ibid., p. 90)

The continua that do not show the property of increasing complexification, such as dialects; Corder called *Lectal Continua* while those that show this property are *developmental* and according to the revised definition, an interlanguage is not lectal but developmental.

2.7:0

.4 Language Learner Language

Ten years after Corder (1971) had introduced and used the term *idiosyncratic dialects*, he chose to use a new term: Language Learner Language. This change in terminology might be attributed to the fact that he had used dialects as examples of a lectal continuum (see 2.7:0.3 above). One of Corder's chief concerns seems to have been the development of techniques and methodology in SLA research. He therefore insisted that the data for the 'language-learner language', which is the same as interlanguage, must be elicited longitudinally and that it is the analysis of such data which would reveal a set of successive stages in the language-learner language. He does not say why cross-sectionally elicited data should not be used for the language-learner language. He insisted that an analysis of the data should reveal the successive stages of development. Such stages should shed light on the processes involved in SLA. Corder went further to claim that speakers might be captured speaking slightly different versions depending on how far they have moved towards the TL. The language-learner language was likened to child-language, which is in the form of a developmental continuum of

more or less smooth change. The parallelism which Corder draws between child-language and language-learner language seems to suggest that he was proposing a model which is dynamic and variable.

Corder has admitted that the process of SLA is not fully understood. He even showed his disappointemnt with what had been achieved so far, saying:

> '...too much has been piecemeal and too much operational and local in its validity'.
>
> (1981:26)

Corder appealed to linguists to re-examine the problem anew so that they might evolve a linguistic theory which might capture the elusive variability and dynamicity in SLA.

Although each of these models has its own weaknesses, each model contributes to our understanding of SLA. But we are reminded that since the older behaviouristic model was discarded, no new model of comparable scope has been put forward (Gregg 1984).

We shall discuss a few models which have been used to account for variability (section 2.8:0).

2.7:0

.5 Markedness Differential Hypothesis

There is growing interest in the theory of markedness as a general descriptive and explanatory model for accounting for language acquisition. Rutherford (1982) attributes markedness in SLA to George (1972), whose concern was how pedagogical input could be sequenced. He had suggested that *stems* should be presented before *stems and inflections*. Then Eckmann (1977), writing in support of the contrastive analysis hypothesis, proposed that rather than being abandoned altogether, CAH should be revised to incorporate a notion of *degree* and *directionality* of difficulty. He used the notion *typological markedness* and defined markedness in the following words:

> A phenomenon A in some language is more marked than B if the presence of A in a language implies the presence of B; but the presence of B does not imply the presence of A.
>
> 1977 p. 320.

This abstract definition of markedness was explained within the three-point markedness differential hypothesis (MDH), which sates that:

> a) those areas of a target language which differ from the native language and are more marked than the native language will be difficult.
>
> b) the relative degree of difficulty of the areas of the TL which are more marked than the NL will correspond to the relative degree of markedness.
>
> c) those areas of the TL which are different from the NL, but are not more marked than the NL, will not be difficult.
>
> ibid : 321

The concept *markedness* is associated with the *complexity principle* (Clark and Clark (1978). Complex items or structures in language are those which have morphemes, rules etc. added to them (Rutherford (1982)). Thus a voiced sound is assumed to be more complex than a voiceless one, a plural form is more complex than a singular form and negative sentences are more complex than affirmative ones. In these cases the complex structures are marked and the less complex are unmarked.

Altenberg and Vago (1983) used Error Analysis (which examines L_2 errors without preconceived notions of the causes of errors) to investigate the acquisition of some phonological features of English among Hungarian speakers. The subjects were asked to read a passage and the result revealed four types of errors. Learners used some L_1 sounds in place of TL sounds, and also applied L_1 voicing system instead of TL voicing system. Such types of errors were classified as *Transfer Errors*. The two linguists say that some errors reflected *unmarked rule application*, e.g. devoicing word final obstruents even if the next word began with a voiced sound. It would therefore be appropriate to think that learners used unmarked forms because voiceless sounds are regarded as unmarked (Rutherford (1982:87)). The third and fourth categories of

errors could not be explained in terms of markedness. They were in the form of 'spelling pronunciation' and 'idiosyncratic pronunciation' errors.

Zobl (1983) points out that if a learner required large amounts of input data so as to fix all the parameters in a specific TL, then the acquisition time span would become unrealistically lengthy. He therefore makes an assumption about the acquisition faculty: that it has the capacity to project solutions about the parameters of a TL on the basis of very little evidence. His projection model of markedness is illustrated below.

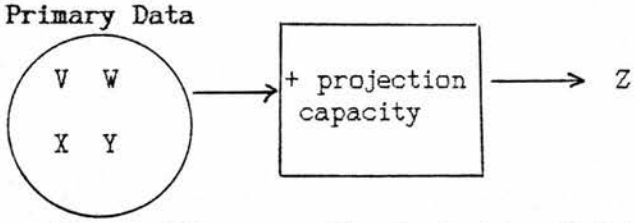


Figure 2.9 **The Projection Model of Markedness**

Zobl 1983:297

Zobl claims that the property Z which is not contained in the primary data might be acquired through the interaction of V and W or some other combinations thereof. Since the acquisition of Z does not require direct experience of Z in the input data, this parameter is assumed to be unmarked. He goes on to claim that this model provides an explanation for the conundrum of successful acquisition in spite of the well-known condition called 'poverty of the stimulus'.

Berent (1985) The explanatory power of markedness in explaining L_2 acquisition has been supported in Berent's two experiments. The first was a *production task* involving the completion of conditional sentences by supplying appropriate verb forms, and the second was a *comprehension task* which required subjects to make judgements. The results yielded the following order of relative difficulty:

[real conditions] > [Unreal Conditions] > [Past Unreal Conditions].

Berent claims that since this order parallels the markedness characteristic of the sentence types involved, markedness theory might predict the mastery of specific structures as reflected through relative degrees of difficulty.

Mazurkewich (1985) has used the theory of markedness to explain her research findings. She investigated the acquisition of dative structures and dative questions in a passive context in English by 45 French speakers and 38 Inuktitut (Eskimo) speakers. Among her several findings was that structures in which direct object is passivized are acquired before structures in which the dative is passivized. The assumption made here is that passivization of the dative is more marked than passivization of the direct object. In order to support her argument, she uses the theory of generative grammar (Chomsky 1980, 1981, 1981, 1981, 1982). According to Chomsky each language has *core rules* (unmarked) which are learned easily and are acquired on the basis of minimal exposure to language, and *non-core rules* (marked) which are acquired on the basis of positive evidence of their existence in language. Thus passivization of the direct object is one of the core rules in English, but passivization of the dative is one of the non-core rules in the TL.

If it is the case that second language learners acquire core rules before the non-core rules, then markedness might be taken as one of the assumptions which learners make about a target language. A language leaner's output can thus be described as either marked or unmarked, and the process of language acquisition might be viewed as stretching from the unmarked categories to the marked ones. Markedness Theory is therefore seen as having descriptive and explanatory powers.

Most of the tenets in markedness theory are revised and incorporated in Universal Grammar which is discussed in section 2.8:0.7.

2.8:0.

Models of Variability In Language Acquisition

The significance of variability has been underscored by Tarone (1983) who says that it is a phenomenon which must be accounted for by any theory of second language acquisition. The use of the term by many linguists (Tarone, Frauenfelder and Selinker 1976, Brown 1976, Labov 1971, Bailey 1973, Littlewood 1981, Tarone 1983, Ellis 1984, Huebner 1985) shows that it might be applied as a cover term for various aspects of SLA. Some of these aspects might include: how and why individual learners differ from each other in the acquisition of a common target language, learners' variable use of phonological and syntactic structures, the relative order of acquisition of specific target structures etc.

Although some models have been proposed and used to account for variability, it is only recently that researchers in SLA have paid greater attention to the development of theoretically sound models which account for variability.

Bialystok (1978) says that in formulating an adequate model, linguists should address themselves to the cognitive processes involved in SLA and relate them to the variables which are known to affect SLA.

2.8:0

.1 Labov's Variability Model

Labov (1969) explains linguistic variability in terms of social and stylistic norms. He believes that social factors impose variations on language *form* and *usage* and that conscious awareness does not necessarily influence performance. In general, the socio-economic status of a language learner is regarded as an important variable which affects how he uses language. Among the linguistic variables which cause phonological variability are such factors as: casual speech, careful speech, reading etc. He made frequency counts of specific functors such

as the phoneme /θ/ and produced results such as we find in the table below.

Social Variable	Casual Speech	Careful Speech	Reading Style	Wordlists
White-collar worker	35	20	05	00
Foreign worker (Italian)	105	75	35	25
College educated	19	15	00	00

Table 2:D An Indexed Use of the Phoneme - /θ/ (Labov 1969)

He concluded that variability in the production of the phoneme is to a large extent dependent on the mode of speech. Although this model does not mention the underlying processes, it is particularly useful because it reveals the linguistic patterns which result from changes in the mode of production. It seems that Tarone (1979, 1982) picked up Labov's ideas and developed her capability continuum. Tarone (1983) says that a learner's TL capability is not homogeneous (single style), but is heterogeneous - made up of a continuum of styles.

2.8:0

.2 **Ordering Theoretic Method**

Although the method is attributed to Bart and Krus (1973) it was used extensively by Lieberman for the purpose of performing and explaining the logical relationships that might exist among items. But it is Dulay and Burt (1974) who suggested that the method could be used in second language acquisition as an alternative to *rank orders* and for explaining the logical relationships among groups of functors. They emphasise that we should establish groups of functors that are acquired together so that we can determine the inherent characteristics and logical relations that make certain functors cohere. The characteristics of such groups

can be used to draw inferences about the cognitive processes involved in language acquisition.

It would therefore be easy to state that the acquisition of functor x precedes the acquisition of y or x is a prerequisite to y. It is from such relationships that explanations can be made. The explanation suggested by Dulay and Bart (1974) is based on semantic and structural relationships. It is unclear why they chose this interpretation because they had rejected it when used by Brown (1973). One of the weaknesses in the method is that it leaves open the theoretical framework for interpreting groups of functors. Consequently, different linguists might arrive at different conclusions depending on the criteria used. The method is advantageous because it does not emphasise the notion of *additive explanation* which is inherent in *rank orders* and in the Guttman Scaling method.

2.8:0

.3 The Terminable Unit

The Mean Length of Utterance (MLU) has been used in first language acquisition research as an index of development. Freeman and Strom (1977:123) say that it can not conveniently be applied in SLA because learners in SLA are more cognitively sophisticated and produce utterances that are more than just a few morphemes in length. It is therefore necessary to develop an index of development which can be used in SLA.

An *index of development* was first suggested by Hakuta (1975) and defined later by Freeman (1978:439) as:

> ... an independent yardstick by which we can expediently and reliably gauge proficiency in SLA.

The Terminable Unit was coined by Hunt (1965), a first language acquisition researcher. It was adopted by Freeman and Strom (1977) and Freeman (1975), who suggest that a Terminable Unit (T-Unit) is a

minimal terminable unit which slices a passage into the shortest units which are grammatically acceptable. Such units might be regarded as sentences. A T-Unit is therefore one main clause plus whatever subordinate clauses, phrases, and words that are embedded to it.

The method has been used satisfactorily as a measure of complexity in oral as well as written language - O'Donnell, Griffin and Morris (1967), Loban (1976). Other linguists - Melon (1969), O'Hare (1971) - have claimed that the method is appropriate in measuring language development. The assumption made is that language development is reflected by the lengthening of a learner's T-Units. The evidence cited to support this hypothesis is that learners perform such transformations as: addition, deletion, substitution, permutations etc. Cooper (1976) expressed the view that the T-Unit method can be used to isolate learners who are at different levels of proficiency.

Those in support of the T-Unit method say that unlike the traditional orders of acquisition which are based on an examination of discrete functors, the T-Unit method is much more global because it is based on longer utterance units. Futhermore, the method does not portray language acquisition as linear. Freeman and Strom (1977:127) say that a linear order is a false representation of language development. They produce evidence and also cite Henning (1976) and Hakuta (1975) to support the view that the route of acquisition is not linear, but is characterised by 'peaks and valleys'.

The method has some weaknesses. Whereas the T-Unit method might be used to measure variability in performance, it does not seem capable of explaining the route of acquisition nor can it capture the processes involved in language acquisition.

2.8:0

.4 Implicational Analysis

Implicational Analysis is a model which deals with individual and group variability. Its wide application resulted from the dissatisfaction expressed by Andersen (1977) that researchers in SLA had failed to deal adequately with the relationship between group morpheme orders such as that reported by Dulay and Burt (1974) using the Ordering Theoretic Method. Andersen feels that orders of acquisition do not reflect individual variations within a group of learners.

The method incorporates some aspects of the Ordering Theoretic Method (Bart and Krus 1973). After De Camp (1971) had applied it to analyse linguistic data, it was subsequently applied mainly in sociolinguistic studies: Andersen (1974), Bickerton (1971. 1972, 1973, 1975, 1977), Washborough (1977). Some linguists used the method to assess standard and non-standard language usage (Stolz and Bill 1968) while others like Eliott, Legum and Thompson (1969) used it to evaluate syntactic variation within a socio-linguistic framework.

The method may be used to deal with variations such as learner's use of specific forms, acquisition order of specific functors etc. The presence of a particular form or functor in the speech of a language learner may be correlated with another attribute, such as the level of proficiency of the learner. An ideal implicational analysis might be presented as in the tables below.

	FUNCTORS			
	A	B	C	D
SUBJECTS				
1	99	95	94	90
2	97	92	90	88
3	95	92	89	87
4	93	89	87	86
5	89	84	81	80

	FUNCTORS			
	A	B	C	D
SUBJECTS				
1	1	1	1	1
2	1	1	1	0
3	1	1	0	0
4	1	0	0	0
5	0	0	0	0

Table 2.E (i) 1 Quantitative Implicational Table (ii) Binary Implicational Table

If we use 90% as the cut-off point we are able to place an individual or groups at a particular point on the continuum of development. On the other hand, we might order functors along a continuum of increasing difficulty.

It is these qualities of the Implicational Analysis that make it:

> both a device for displaying variable linguistic data in ways which will reveal underlying systematicity in the data and also a theoretical explanatory model.
>
> (Andersen 1978 : 223)

The method has its own weaknesses. For instance, language acquisition is portrayed as a linear progression from one functor which is acquired to another which is not acquired. In addition the method does not reveal the transitional constructions used by learners along the path of development. The binary technique conceals a lot of information regarding variability in performance. A learner who achieves 89 in one functor and 20 in another functor is scored ZERO and the interpretation is that he has not acquired the two functors yet he has made considerable progress in one of the functors. Although Andersen claims that the method is 'an explanatory' model, it can not be used to explain the important strategies and processes used by learners in acquiring a target language.

2.8:0

.5 The Monitor Model

This is a model of adult second language performance which is advanced by Krashen (1981) and quoted in subsequent publications: Krashen (1983), Krashen and Terrell (1983). Krashen suggests that a second language learner can internalize the rules of a target language by either of the two processes: ***acquisition*** and ***learning***.

Acquisition is a sub-conscious process in which the L_2 learner is never aware that he is internalising the target language but he might be aware that he is employing the TL communicatively. *Acquired Competence*

which is the result of language acquisition enables an L_2 learner to have a *feel* for correctness in the TL and errors feel wrong whenever they are made.

Learning is a process of getting formal knowledge of a target language. This is similar to explicit language learning in which an L_2 learner makes conscious effort to *know* a target language, its rules, and even being able to talk about the TL.

According to Krashen, each of these processes has distinct roles in the production of a target language. *Acquisition* is responsible for initiating utterances and it also ensures that a language acquirer develops fluency in the target language. On the other hand, *learning* functions as the *monitor* or *editor*, which makes the necessary changes to the utterances - before or even after the actual production of utterances. This is illustrated in the next figure.

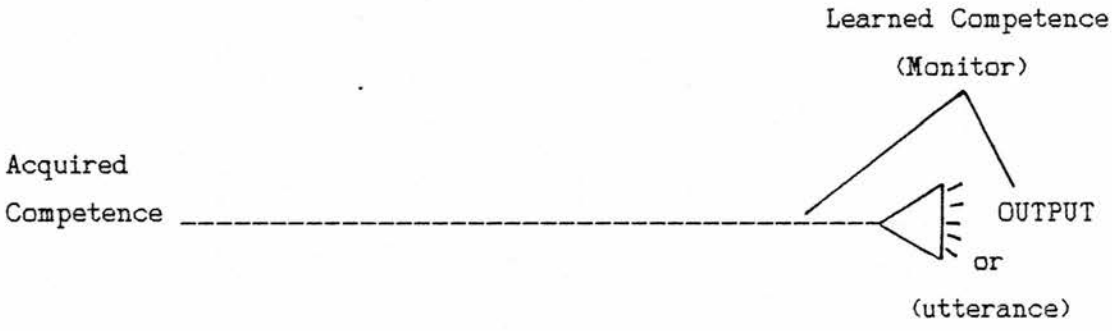


Figure 2.10 The Monitor Model (Krashen 1982:16)

The effective use of the monitor requires that three conditions be met. These are:

i) the language learner must have sufficient time to concentrate and therefore apply conscious rules.

ii) he must also be focussed on form. This means that a learner concentrates on correctness and might pay little or no attention to meaning.

iii) he should also know the rules of the target language.

The model has several implications for SLA and research in SLA. The strong claim that only monitor-free situations lead to what we regard as invariant orders of acquisition implies that research should not allow the monitor to be used. This can be achieved if the three conditions are not met. Krashen suggests that any variations met in performance result from the manner in which the monitor is used. For instance, an *over-use* of the monitor leads to hesitancy in speech, self-corrections in the middle of utterances and a general lack of fluency. *Under-use* of the monitor is observable in situations where a learner has not learned much; he corrects himself only by an intuitive feel for correctness. Finally, an *optimal monitor use* which is desirable and should be encouraged in pedagogy, is that which is applied only in cases of extreme necessity. Optimal monitor use does not interfere with communication.

A number of criticisms have been directed against Krashen's Monitor Model. Firstly, it is alleged that the model is based on the evidence of adult natural orders of acquisition which had been established in several studies, among which are: Bailey, Madden and Krashen (1974), Krashen, Houck, Giunchi, Bude, Birnbaum and Strei (1977), Larsen - Freeman (1975). Krashen made an assumption that the orders were established because the conditions under which these studies were conducted did not allow conscious use of the monitor. He went further to conclude that the unnatural orders such as those which were reported by Larsen Freeman (1975), Houck, Robertson and Krashen (1975), and Krashen, Sferlazza, Feldman and Fathman (1976) were contributed by "conscious grammar", i.e. the monitor was used by the subjects.

Krashen proposes that if elicitation tests meet the three conditions for monitor use, then the results would reveal unnatural orders.

The strongest and theoretically based criticisms have been made by McLaughlin (1978) and Gregg (1984). They point out that the model does not empirically pin down any evidence to prove whether the learners usually operate on the "feel" or on the "rule". Furthermore, the model

does not have convincing evidence to support the claim that it is the "Acquired Competence" rather than the "Learned Competence" or both which initiate utterances.

The acquisition-learning distinction is not popular, largely because many linguists use them in free variation.

2.8:0

.6 The Competition Model

Felix (1981) proposes a model which tries to explain why children appear to reach ultimate attainment but adults fail to achieve native-speaker competence in a second language. The popular claim that children acquire native-speaker competence but adults do not implies that children possess certain cognitive structures which adults do not have. It is this difference which Felix tries to explain. He suggests that we need a theoretical paradigm which specifies the exact nature of the cognitive structure in children which is at variance with that in adults.

A key assumption made in the model is that the human mind possesses a number of cognitive systems. One of these systems is a language specific cognitive subsystem (LSC-system). It is likely that what Felix has in mind is similar to Chomsky's (1965) notion of language acquisition device (lad) or Selinker's (1972) latent psychological structure. The operations of the LSC-system are restricted to processing linguistic data for the purpose of acquisition. Another assumption is that children process linguistic data using the LSC-system. Consequently they reach ultimate attainment. The properties of the LSC-system might be characterised by the principles of Universal Grammar.

This cognitive system co-exists with a problem solving cognitive system (PSC-system) which is an inadequate or inappropriate tool to process linguistic data. The theoretical position in Felix's Competition Model is that with the onset of puberty, which approximates Piaget's Stage IV of general intellectual development, the two systems (LSC-system and PSC-system) enter into competition with respect to the processing

of linguistic data. It is this competition which creates the apparent inability in adults to reach ultimate attainment.

Although the model appears theoretically convincing, it is to a large extent empirically untestable. It is based on speculations and assumptions that an inefficient cognitive system is transferred to handle a linguistic domain for which it is not designed. Furthermore, Felix admits that the properties of the inefficient Problem Solving Cognitive system are largely unknown. If its properties are unknown, then it is theoretically unsound for Felix to claim that this cognitive system cannot process linguistic data. He even suggests that we need an adequate psychological theory about cognitive principles which underlie problem-solving behaviour. So until such a construct is found, which would support the Competition Model, we can not rely on the model to explain the apparent discrepancy between children and adults in language acquisition.

2.8:0

.7 Universal Grammar

Although Chomsky is not directly involved in the field of language acquisition, we can infer his views on the subject from his publications (Chomsky 1976, 1980, 1981). His theoretical standpoint is that the process of acquiring language is innate. He had expressed this mentalist theory in his criticism of Skinner's Verbal Behaviour, discussed in Section 2.2:0. Lately he has made stronger claims that human beings are endowed with a universal grammar which is comprised of innate cognitive principles. These principles govern the emergence of language.

The hypothesis for the existence of innate capabilities is based on the fact that speakers of any language have a certain knowledge about the language(s) they speak, which has not been gained through formal or non-formal exposure to the language (s).

Such knowledge must be evidence for some property of the human mind. Chomsky claims that the language properties inherent in the human mind make up Universal Grammar. Universal Grammar consists of a set of general principles that apply to all grammars but leave certain parameters open. One of the parameters that is open in Universal Grammar is the pro-drop parameter i.e. the relationship of government betweeen subject and verb. A language such as English requires *subjects* in all declarative sentences and the syntax in such sentences is *Subject + Verb* but Spanish is a pro-drop language because it can have sentences with an *empty subject* and also invert the order to be *Verb + Subject.*

Language acquisition is therefore conceived as a process in which a learner learns how to fix the parameters in a specific language. This process follows an internally directed course under the triggering and potentially shaping effect of the environment. The notion *markedness* is related to Universal Grammar because the the unmarked structures in a language are part of the Universal Grammar; they form the core grammar but the marked linguistic structures are less directly related to Universal Grammar. They form peripheral grammar.

The importance of Universal Grammar is reflected in the increasing reference to Chomsky's ideas - Cook (1985), Mazurkewich (1984, 1985), White (1985), Paul van Burer and Sharwood Smith (1985), Haegeman (1985), Flynn and Espinal (1985).

Mazurkewich (1985) has focussed on the acquisition of verbs which allow to- and for- dative alternation, and other verbs which do not allow the alternation. Her point of departure is the assumption that since the vast majority of dative verbs in English collocate with [NP + PP], they might be regarded as *unmarked*, and those verbs which take [NP + NP] may be regarded as *marked*. She elicited IL intuitions of grammaticality from French and Inuktitut (Eskimo) subjects who were arranged in three proficiency levels.

Her results supported the hypothesis that the unmarked dative prepositional phrase complement would be acquired before the marked

double-NP complement, and that learners acquire subcategorical features individually. For instance, the to-dative verbs are acquired before the for- datives. White (1985) claims that transfer errors in SLA occur because of parametric variations between NL and TL. Learners might activate a parameter such as pro-drop which is fixed in different ways in different languages. In order to support her claim she tested 54 adult Spanish and 19 adult French speakers. Spanish differs from French and English because it is a pro-drop language whereas the other two are not.

The results of the IL data which was elicited through grammaticality judgement tasks suggested that Spanish speakers carried the pro-drop parameter into English. This supported her hypothesis, which is also validated in studies by Haegeman (1985), Flynn and Espinal (1985).

2.9.0 Some Studies of Linguistic Variablity In SLA

Inherent in the interlanguage hypothesis is the assumption that the language of second language learners is systematic and variable and that linguistic variability can be explained in such models as we have in the section above.

Dickerson W. (1976) reported linguistic variability from a longitudinal study of five Japanese subjects acquiring the English phoneme /l/. The choice of this phoneme was based on the assumption that the acquisition of the target sound by these subjects must be a formidable task because according to Bloch (1950) laterals have marginal status in the native language of the subjects. Furthermore a contrastive analysis carried out by Kohmoto (1960) had revealed that Japanese speakers substitute the phoneme /ɾ̂/ and its allophones for the English lateral /l/. Dickerson focussed on the environments in which the target sound occurred and the variable substitutes used by the subjects. She came out with a developmental continuum with five variants:

[d̬] > [r̂] > [r] > [l̬] > [l]

Dickerson 1976

The conclusion she made from this evidence is that 'the Japanese-English progressively becomes less Japanese-like and more English-like.

Like Dickerson W (1976), **Dickerson L (1975)** conducted a longitudinal study in the acquisition and use of the English phoneme /z/ by ten Japanese subjects. She expressed the view that the variable performance can be explained using a set of variable rules. The notion *variable rules* was very conveniently used in the study reported below.

Hyltenstam (1977). He studied the Swedish syntax of negation using the implicational scaling technique (see 2.8:0.4 above). His objective in the study was to capture and explain the nature of variability in an interlanguage continuum. Hyltenstam held the view that the data for a study which yields evidence for variability must meet three criteria, viz.:

- a large data base to diplay possible regularities in the variation.
- the variable features should be quantifiable to enable comparison between individuals and groups to be made.

- the linguistic environment of the variable feature should be quantifiable so as to determine its possible effects on the variability of the functors.

He used 160 subjects drawn from 35 different native languages and with diverse educational experiences. As a starting-point, he formulated a general syntactic rule for the Swedish negation: the negative particle is placed after the finite verb in the main clause, but before the finite verb in subordinate clauses. What has to be acquired therefore are the rules for fixing the negative particle in its appropriate syntactic position.

On the basis of evidence from many other IL studies which had reported that learners' early stages are characterised by the simplification strategy, Hyltenstam predicted that the starting-point for all learners would be pre-positioning the negative particle before the verb. The results of his study are reproduced in the figure below.

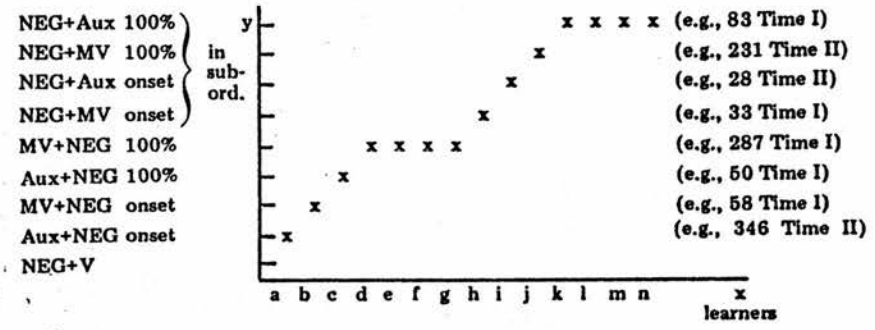
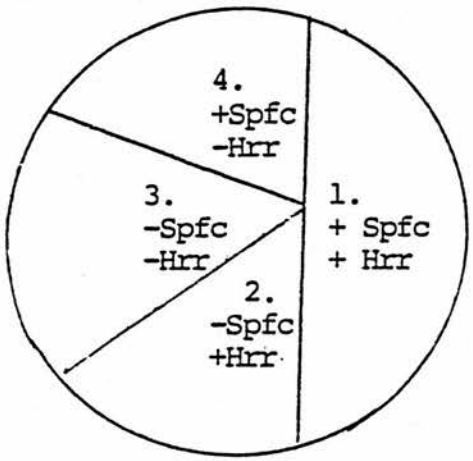


Figure 2.11 The build-up of the interlanguage continuum for syntax of negation with Swedish as the target language

He reported that despite such factors as different source languages and diverse educational experiences, individuals in the study conformed to a uniform IL continuum. The continuum shows lower degrees of complexity on one end and higher degrees of complexity on the other end of the scale. Learners' movement from one end to the other is cummulative because a learner who is captured at the extreme right end of the continuum has produced all the variable IL forms or syntactic patterns to the left. Such a display of data is important because it reveals the developmental route in the form of transitional constructions.

Huebner (1979) carried out a longitudinal study in the acquisition of article system in an adult who was acquiring English naturalistically.

He adopted Brown's (1973) procedure of focussing on the appearance of the target structure in obligatory Standard English contexts. He claims that Brown's method is inadequate for the purposes of explaining linguistic variability and that a better way is to adopt a dynamic paradigm. Using a system of semantic relations that exist between articles and the nouns they collocate with, he developed a semantic wheel which is reproduced in the figure below.



1. +Specific, +Hearer:
   a. Unique reference
   b. Conventionally assumed unique reference
   c. Referent physically present
   d. Referents previously mentioned in discourse.
   e. Specific reference assumed known to hearer
2. -Specific, +Hearer: Generics
3. -Specific, -Hearer:
   a. NPs in scope of negation
   b. NPs in modal, irrealis scope
   c. NPs in scope of questions
   d. NPs with indefinite number
4. +Specific, -Hearer: First mention of NP (+Specific) in a discourse

Figure 2.12 A Dynamic Paradigm (Huebner 1979.25)

Huebner was able to map out developmental stages which correlated with the four points in time, and he concluded that IL consisted of shifting patterns. Articles were used in referring to *topics* first and only later were they used in relation to *subjects*.

Zobl (1984) elicited data cross-sectionally from 162 French speaking adults acquiring the English possessives *his* and *her*. Like Huebner (1979), Zobl holds the view that possessives (like determiners) are best

analysed in relation to the nouns they collocate with. He therefore set out three semantic domains, viz.:

1. possessed inanimate entities (eg his/her watch)
2. body parts (eg his/her leg)
3. kinship terms (eg his/her mother)

He adopted Bailey's (1973 a) Wave Model which if applied to linguistic variability should capture variations across groups of learners and also reveal the variations that might be attributed to an individual learner's movement toward a target language norm. On the basis of frequency counts, Zobl came out with implicational orders such as:

KINSHIP > BODY PARTS > INANIMATES.

ibid:167

He concludes that since KINSHIP domain is the least frequent, it is more marked and consequently more complex than the other two. Whether 'frequency' can be used as a criterion of markedness is something that needs to be assessed. The study reported next seems to support this criterion.

Wolfram (1985) suggests that a number of surface-level constraints (such as form) which determine variability in tense marking must be considered before isolating higher-level constraints such as discourse. He elicited data from 16 Vietnamese subjects distributed evenly in 4 age groups. He isolated a number of constraints on the variability of tense marking. These included: the form of tense (i.e. regular or irregular), the shape of regular form, its phonological context, the shape of irregular past formation and the relative frequency of irregular form.

The results demonstrated that learners prefer the irregular forms, they reduce consonantal clusters particularly at word final positions and the frequently occurring irregular verb forms are marked for tense more often than their infrequent counterparts.

Tarone (1985) claims that systematic variability in IL use is related to task types and that if we adopt Labov's (1969) variationist theory, we might refer the variations as different styles in IL. Interlanguage data in six target grammatical forms was elicited from 20 adults (10 Arabic and 10 Japanese). She used four task types - grammaticality judgement tasks, oral description task, oral narration task and oral interview. After an exhaustive analysis of the interaction between scores in specific functors, task type and source language, she arrived at two conclusions:

i) variability in IL is related to task and this supports her Capability Continuum Paradigm (Tarone 1972, 1982, 1983) which views IL as consisting of a continuum of styles.

ii) variability in IL is not related to L1.

2.10:0 Concluding Remarks

The chapter has highlighted the development of SLA within the broad discipline of Applied Linguistics. The historically motivated order mirrors the changing theoretical perspectives of viewing a language learner as a passive reactor to external stimuli to an active participant in the language learning process.

In retrospect, we see that the new era in which SLA has flourished started with Corder's (1967) revolutionary paper. It would appear that research since then has been preoccupied with two main tasks. According to Ellis (1984:7), these two are: *to identify* and to *describe* the innate syllabus of a language learner.

The search for the exact nature of this syllabus has led to an explosive growth of hypotheses, theories and models. Ellis (1984:159) cites Schouten (1979) to caution that some of these hypotheses etc have been built and taken for granted too soon. He proposes that researchers should come up with modest hypotheses which should be subjected to rigorous testing.

It is partly for this reason that the present study set out to test rather than build new hypotheses.

Our starting point is a contrastive description of the structures which are studied.

CHAPTER THREE

3. The Structures Under Investigation

3.0 Introduction

In this chapter we present short descriptions of the target structures. The descriptions are in the TL i.e English and three NLs viz: Luo, Kalenjin and Gĩkũyũ. The contents in this chapter will be used for the purpose of checking whether learners organized their 1L along their source languages.

Since our focus is on the acquisition of morpho-syntactic structures we have presented both the *form* and *syntax* for each target structure.

The contrastive approach which is adopted here is not intended to predict any areas of difficulty. We have already stressed that our methodological approach is in the form of Error Analysis and that we shall attribute errors to specific causes only after we have detected and analysed them.

3.1 Rationale For Choosing The Structures

After an exhaustive analysis of a sample of English Language Examination papers which had been set by the Kenya National Examination Council, I found out that many test items tested learners' knowledge of tenses and plurality. There were also some items which tested learners' ability to perform such transformations as positive to negative, statement to question etc. This made me hold the view that these areas that are regularly tested must be of interest to the examiners, the teachers and maybe to the pupils as well. On the other hand, having been educated in Kenya, coupled with several years of experience as a teacher of English in the country, I must have been a speaker of the

pupils' interlanguage at one time. More importantly my teaching experience must have been the basis for what Corder (1981:62) calls *prior hunches* i.e. tentative hypotheses about the possible nature of the learners' interlanguage.

It is the purpose of this study to find out the difficulties learners experience in acquiring the structures. We shall also try to find out whether the difficulties are explainable in terms of the structural differences that might exist between the native languages and the TL.

3.2:0 Tense In English

Tense has been defined as a grammatical category which refers to the correspondence between the form of a verb and our concept of time (Leech and Svartvik 1975:305). We can identify many different tense types depending on the school of grammar we adopt for our analysis. For instance, the traditional grammarians recognized three main tense types: Past, Present and Future. In turn, these were subcategorized into simple, progressive and perfective. We might illustrate this with a set of sentences.

PRESENT TENSE

1(a)	I eat.	(simple)
(b)	I am eating.	(progressive)
(c)	I have eaten.	(perfective)

Using a series of transformations; the past and the future tenses were realised as in the sentences below:

PAST TENSE

2(a)	I ate.	(simple)
(b)	I was eating.	(progressive)
(c)	I had eaten.	(perfective)

FUTURE TENSE

3(a) I will eat. (simple)
(b) I will be eating. (progressive)
(c) I will have eaten. (perfective)

In general *tense* relates the meaning of a verb to a point in *time*, if not, to a *period* of time. The present tense may therefore refer an action or a state to the specific time when the utterance is made. Whereas *time* can be present, past or future, many linguists (Brown and Miller 1980:109, Lyons 1977:809, Quirk et al 1972) are in agreement that the English tense system can be divided into two categories: ***Past and Non-Past.***

Tense in English is commonly, though not universally realized in the morphological variations of the verb. As a rule, it is the first constituent in the verbal group which shows the morphological changes marking either the past or the non past tense. For example, the constituent structures "be +-ing" in the sentence *I am eating* are the syntactic forms which relate the meaning of the verb *eat* to the "present time" and the non-past tense. A sentence such as 1 (a) above which is in the non-past tense has a zero marker of the tense. On the other hand *past tense* refers to a time in the past. The English language has two main ways of referring the past tense: the adverbials of time and morpho-syntactic forms. Let us consider the following sentences:

4(a) I read books.
(b) I read books yesterday.

If sentence 4(b) did not have the adverbial of time, there would be no difference between the two sentences with respect to tense and time.

In other cases a bound morpheme such as -ed in the sentence below is used to mark the past tense.

5. I liked the city of Edinburgh.

The morpho-syntactic constituent -ed occurs only in some verbs and we often refer it as a marker of the *regular past tense* in English.

Our morpho-syntactic rule for the regular past tense will be:

Verb ⇒ Verb + -ed.

Some verbs do not conform to this rule, their past tense forms are not predictable and we can not lay down a generalized syntactic rule. We may however note two main categories.

Type A Verbs in which there is no change in form.
{cut, bid, cost, hit.....}

Type B Verbs which undergo an internal morphological change.
{bend, send, leave, buy, seek.....}

The two types (A and B) take what is commonly referred to as Irregular Past Tense category. Since there is no *tenseless* sentence in English; and since the two tense types cannot occur on the same verb in a sentence; it is therefore right to think that whenever a verb is not in the past tense; it must be in the non-past tense.

3.2:1 Tense in Luo

The Luo language has some morpho-syntactic forms of representing the present, past and future tenses and such aspectual distinctions as: present progressive, past progressive and the future progressive. Besides these there are specific syntactic structures which are used to indicate the present perfect, past perfect and even the future perfect.

Since it is not within our interest to discuss all these subcategories; we shall choose and illustrate those that are relevant to our study.

The basic present tense and its aspectual present progressive are realized with a ZERO morph such that we have:-

6(a) Target Language (TL): I eat.
(b) Native Language (NL): Achiemo.

NL syntax: S [(a-) → Subject + (chiemo) → Verb]

7(a) TL: I go.
(b) NL: Adhi.

NL Syntax: S [(a-) → Subject + (-dhi) → Verb]

8(a) TL: I walk.
(b) NL: Awotho.
NL Syntax: S [(a-) → Subject + (-wotho) → Verb]

In Luo these three sentences might mean the same as:

6(c) I am eating.
7(c) I am going.
8(c) I am walking.

The Luo speakers rely on discourse clues to determine whether the intended meaning is one of the simple: *I eat* or the progressive: *I am eating*.

The infix **[-bro-]** is the morpho-syntactic structure which is used to change the tense in a verb to the future tense. We shall use a few illustrations.

9(a) TL: I eat → I will eat.
(b) NL: Achiemo → Abrochiemo.

Syntax: [S Tense + V] s
[(a) → subject + (-bro-) → Tense i.e. future + (-chiemo) ⇒ verb]

The sentences 7(b) and 8(b) change to:

10(a)	Abrodhi	i.e.	I will go.
(b)	Abrowotho	i.e.	I will walk.

We have noted that many linguists are in agreement that what in Traditional Grammar was regarded as the 'present' and 'future' tenses in English be taken to represent the Non-Past Tense. If we use the same reasoning, then the generalised rule for the non-past tense in Luo would be the following:

Non-Past Tense ⟶ { Ø , -bro- }

The allomorph {-bro-} is used in the context of a future time reference.

The Luo language has a morpho-syntactic form which is used to mark the Past tense. Let us illustrate with a few sentences:

11(a)	TL	Children like milk.	
(b)	NL	(Non Past):	Nyathind ohero chak.
(c)	NL	(Past):	Nyathind ne ohero chak.

Syntax: [S + Tense + V + O] s

s [(Nyathind) → Subject + (ne) → Tense + (ohero) → Verb + (chak) → object]

In this sentence, we have the tense particle **[ne]** preceding the main verb. There are other cases in which the same particle precedes the subject as in:

12(a) TL I buy vegetables in the market.

(b) NL (Non-Past) Angiewo alot e chiro.

(c) NL (Past) Neangiewo alot e chiro.

Syntax: [Tense + S + V + O + Adv-place] s

We can therefore generate the following rule to capture the past tense in Luo.

Past Tense → [ne]

Sub-rule 1 [ne] before the main verb.

Sub-rule 2 [ne] before the subject.

My informants expressed the view that the Luo speakers use the two sub-rules in free variation. Unlike the English language which has the regular and irregular past tense; the Luo language does not seem to make these distinctions.

3.2:2 Tense In Kalenjin.

Like the Luo language, the Kalenjin language has the Present, Past and Future tenses. Although the language makes distinctions between 'near past' and 'distant past', and also between 'present progressive' and 'present perfective', we shall discuss only those distinctions that are important to our study.

The present tense is marked with the structure *[ko]* which in most cases precedes the main verb in a sentence. For example:

13(a) TL: Kipchoge is running.

(b) NL: Ko labati Kipchoge.

Syntax: [Tense + V + S] s.

s [(Ko) → Tense ie present + (labati) → Verb + (Kipchoge) → Subject]

14(a) TL: John is buying a pen.

(b) NL: Ko alei John kalamit.

Syntax: [Tense + V + S + O]s

s [(Ko) → Tense ie present + (alei) → Verb + (John) → Subject + (kalamit) → Object]

The linguistic structure [**tun**] which is used to mark the future tense occurs before the main verb in a sentence. For example:

14(a) TL: Kichoge will run

(b) NL: Tun labati Kipchoge

Syntax: [Tense + V + S] s

s [(Tun) → Tense i.e. future + (labati) → Verb + (Kipchoge) → Subject]

16(a) TL: John will buy a pen.

(b) NL: Tun alei John kalamit.

Syntax: [tense + Verb + Subject + object] s.

We may conflate the present and future tenses so as to form the non-past tense which we then represent with the following rule:

$$\text{Non-Past Tense} \rightarrow \left\{ \begin{array}{l} \text{Ko / referring to present time.} \\ \\ \text{tun / referring to future time.} \end{array} \right\}$$

The English language and the Kalenjin language seem to differ in two main respects with regard to the syntax of the Non-Past Tense.

i) Whereas in English the non-past tense marker is a bound morpheme, it is a free morpheme in Kalenjin.

ii) The bound morpheme in English is a suffix of the verb or of the first auxiliary structure in the verbal group, but the free morpheme in Kalenjin precedes the main verb.

It might also be important to point out here that the syntax of a simple declarative sentence in Kalenjin is *V + S + O* and this differs from *S + V + O* which is found in English.

There are no such distinctions as regular and irregular past tense types in Kalenjin. The linguistic structure **[ki]** is used to mark the past tense. For instance:

17(a)	TL	(Non-Past):	Children like milk.
(b)	NL	(Non-Past):	ko chamei lakok cheko.
(c)	NL	(Past) :	ki chamei lakok cheko.
Syntax:	[Tense + Verb + Subject + Object] s		

18(a)	TL	(Non-Past):	John frightens the children.
(b)	NL	(Non-Past):	ko imui John lakok.
(c)	NL	(Past) :	ki imui John lakok.
Syntax:	[Tense + Verb + Subject + Object] s		

The verbs *pay* and *buy* which change their morphological form in English so as to accommodate past tense in English retain only one form in Kalenjin. For example:

19(a)	TL:		My parents paid fees.
(b)	NL	(Non-Past)	ko lipani sikik fees.
(c)	NL	(Past)	ki lipani sikik fees.
Syntax:	[Tense + Verb + Subject + Object] s		

20(a) TL: I bought vegetables.

(b) NL (Non-Past): ko ale nguek.

(c) NL (Past): ki ale nguek.

Syntax: [Tense + (Verb + (Ø Subject)) + object].

The two languages - English and Kalenjin, differ with regard to the *form* of the structures that are used to mark past tense; and also the *syntax* used in relation to tense.

3.2:3 Tense In Gĩkũyũ

The present progressive, the future and the past are the three main tense distinctions which are made in this language. We shall present some sentences and then analyse them so as to illustrate the constituent structures which are used to mark tense.

21(a) NL: I am eating food.

(b) NL: Ndĩrarĩa irio.

Syntax: [(Subject + Tense + Verb) + Object] s.

s [(ndĩ-) → Subject + (-ra-) Tense ie present progressive + (ria) → Verb + (irio) → Object]

The infix [-**ra**-] which occurs between the subject and the verb is the marker of the present progressive tense. The syntactic string shows that the three constituents: Subject, Infix, and Verb are realized as one word. This is so because the language is agglutinative.

Like the present progressive, the future tense is also marked with an infix which occurs between the subject and the verb in a sentence. The infix is either [-**ka**-] or [-**ga**-] and the native speakers of the language know which variant to use with different verbs. For example:

22(a) TL: She will play well.

(b) NL: Agathaka wega.

Syntax: [Subject + Tense + Verb + Adv. - manner] s

s [(A-) ⇒ subject + (-ga-) ⇒ Tense ie future + (-thaka) ⇒ Verb + (wega) ⇒ Adv. - manner]

23(a) NL: She will eat food.

(b) NL: Akarĩa irio.

Syntax: [Subject + Tense + Verb + Object] s

s [(A-) → Subject + (-ka-) → Tense ie future + (-rĩa) → Verb + (irio) → Object]

The future tense might therefore be represented with the following rule.

$$\text{Future Tense} \rightarrow \begin{cases} \text{[-ga-] / \{thaka, tinia, ũka, cora....\}} \\ \qquad\qquad \text{(play) (cut) (come) (draw)} \\ \text{[-ka-] / \{ria, una, ona, igua.....\}} \\ \qquad\qquad \text{(eat) (break) (see) (hear)} \end{cases}$$

The Non-Past tense is therefore marked with three infixes and the generalized rule which might be used to represent this tense is:

$$\text{Non Past Tense} \longrightarrow \begin{cases} \text{[-ra-] / present time} \\ \text{[-ga-] / future time} \\ \text{[-ka-] / future time} \end{cases}$$

The Past Tense is marked with the suffix **[-ire]** which is attached to the verb. All the verbs in Gikuyu end in the letter **/-a/** and whenever a verb changes from its non-past tense form to the past tense form; the

letter **/-a/** is dropped and the suffix **[-ire]** introduced. Since this is the invariant marker of this tense; the simple morpho-syntactic rule for the tense is:

Past Tense → Verb + -ire

Let us illustrate this with a few sentences.

24(a) TL: He is eating food ⇒ He ate food.
(b) NL: Ararĩa irio ⇒ Arĩire irio.
Syntax: [S + Tense + V + O] s ⇒ [S + V + Tense + O] s

s [(A) → Subject + (-ra) → Tense + (-rĩa) → Verb + (irio) → Object]

s [(A) → Subject + (-rĩ-) → Verb + (-ire) → Tense + (irio) → Object]

25(a) TL: He is feeling bad ⇒ He felt bad.
(b) NL: Araigua ũrũ ⇒ Aiguire ũrũ.
Syntax: [S + Tense + V + Adv] s ⇒ [S + V + Tense + Adv] s

Gĩkũyũ language is different from English in various respects. Whereas we might say that tense in English is marked as a suffix of the verb; (V + Tense), Gĩkũyũ has *Tense + Verb* for the Non-Past Tense and *Verb + Tense* for the Past Tense. It is also important to note that the two languages differ with regard to the *forms* used to mark tense.

We shall now describe the second structure which is investigated in the study.

3.2:0 Plurality In English

Plurality in English is a grammatical category of *number* (Lyons (1977), Brown and Miller (1980)). It is marked on Nouns, Personal and Demonstrative Pronouns. The grammatical category of number refers to the semantic notions of countability and non-countability such that whatever is countable can be realized as being *one* i.e. singular or *more than one* i.e. plural.

Many nouns in English take either the suffix [-s] or [-es] so as to mark plurality. For example:

26(a) The boy kicked the ball ⇏ The boys kicked the balls.

(b) The bus was near the church ⇏ The buses were near the churches.

If we take the two suffixes to represent the regular plural; then the syntactic rule we generate is:

Regular Plural ⟶ Noun + { -s. / -es. }

We shall consider all the other nouns which do not conform to this rule as taking the *irregular plural form*. There are many nouns which take the irregular plural form. The classification which we have below does not cover all the nouns, nevertheless, it shows some of the main forms of those nouns which belong to this category.

(i) Of the many nouns which end in either [-fe] or [-f] there are those in which the final [-f(e)] is dropped and replaced with [-ves] as in:

calf - calves	knife - knives
half - halves	wife - wives
loaf - loaves	life - lives
shelf - shelves	
thief - thieves	

We cannot state a rule here because there are exceptions which have the final [-f(e)] but take the regular plural. For example:

belief - beliefs	safe - safes
chief - chiefs	proof - proofs
cliff - cliffs	roof - roofs

(ii) The second group of nouns is that which has an internal vowel change. For example:

foot - feet	tooth - teeth
goose - geese	man - men
mouse - mice	woman - women

(iii) A few nouns in English do not change their form. Speakers of English use contextual clues in order to show whether they wish to communicate plural or singular meaning. Such contextual clues might be the form of verbs which collocate with the nouns, or singular/plural determiners. For example:

27(a) The sheep is going to be slaughtered.
(b) The sheep are going to be slaughtered.
(c) (i) A sheep died. cf (ii) Sheep died.

(iv) The 'foreign' nouns either retain their foreign plural system or change and take the English plural system. Most writers

seem to prefer the English plural system and this means that such nouns take the regular plural. For example:

stimulus - stimuli
syllabus - syllabi or syllabuses
campus - campi or campuses

(v) The English language has some nouns which occur in plural. They are nouns denoting a tool. instrument, or article of dress consisting of two equal parts joined together. To make them singular, we use the periphrastic construction *pair of* which can then be pluralized. For example:

scissors - a pair of scissors - pairs of scissors
trousers - a pair of trousers - pairs of trousers
tongs - a pair of tongs - pairs of tongs
pliers - a pair of pliers - pairs of pliers
shears - a pair of shears - pairs of shears

vi) A few nouns are in the form of compounds and here we might distinguish between two types of compounds. The first consists of a Noun and a preposition or prepositional phrase e.g. passer-by, man-of-war, sister-in-law. It is the first constituent structure which is made plural; so we would have: passers-by, men-of-war and sisters-in-law.

The second type consists of two nouns i.e. N + N e.g.

a) man servant - men servants or man servants
b) assistant director - assistant directors
c) boy friend - boy friends
d) pocket money - pocket money

We cannot lay down a rule because, as the examples show, there are several ways of marking plural.

3.2:1 Plurality In Luo

Plurality in Luo is marked on Nouns, Pronouns, Verbs and Adjectives. We shall illustrate each of these with a few words and some sentences.

There are many different ways of marking plurality in nouns. Some nouns change from their singular form to plural in highly predictable ways. For example:

TL singular	**NL singular**	**NL plural**
teacher	japuoni	jopuoni
leader	jatele	jotele
youth	rawera	rowora

What seems to emerge from this set of words is that the [-a-] in the singular form of a noun is substituted with the letter [-o-]. There are exceptions to the rule because ***ngalo*** which means "person" changes to ***ji***.

Like in English there are some nouns which are uncountable and do not change form. For example:

TL	**NL**
water	pi
sand	kuoyo
soil	lowo
potato	rabuoni
banana	rabolo
meat	ringo

We cannot say that these are MASS NOUNS because in English *potato* and *banana* are commonly regarded as countable nouns. In some cases, they might be regarded as uncountable.

Another category of nouns is regarded as *countable* but the nouns in the group do not change from one form to another. For example:

TL	**NL singular**	**NL plural**
fish	rech	rech
egg	tong	tong

A few nouns mark plurality by phonemic substitution. It appears that the words which end in a voiced alveolar phoneme **/-d/** plus a vowel; normally drop the voiced alveolar consonant and take the voiceless alveolar consonant **/t/**. The substitution of the homorganic sounds is applied in reverse if the singular form of the noun has the voiceless alveolar phoneme. The final vowel may be retained but in some cases it is substituted. For example:

	TL singular	**NL singular**	**NL plural**
a)	hand	luedo	luete
b)	house	oti	odi

Some nouns take prefixes, e.g. boy - wuoyi = yawuoyi

Plurality is also marked on verbs such that the form of the verb agrees with the noun (i.e. singularity or plurality). This is subject-verb concord. For example:

28	(a)	TL:	The teacher bought fish.
	(b)	NL (sing)	Japuoni okelo rech.
	(c)	NL (plural)	Jopuoni jokelo rech.

s [(Japuoni) → teacher + plu + (jokelo) → (plu + verb) + (rech) → (Object + plu)]

Adjectives also change their forms in order to accommodate plurality. This is illustrated in the next sentence.

29(a) TL: This house is the most beautiful.

(b) NL (sing): Otini ema ber moloyo.

(c) NL (plural): Odigi ema beyo moloyo.

Syntax: [(plural + N) + Copula + (Adjective + plu) + Intensifier] s

s [odigi] → plu + house + [ema] → copula + [beyo] → Adj + plu + [moloyo] → intensifier

It would appear that the copula is not affected by plurality. We have noted that plurality affects the form of the personal pronouns. Since our focus in the main study is on how plurality is marked on nouns; we shall not give a detailed description of how it is marked on pronouns. The change in form from singular to plural might be presented as follows:

	NL singular	**NL plural**
a) 1st person singular	an	wan
b) 2nd person singular	in	un
c) 3rd person singular	en	gin

Although English and Luo are similar with regard to the syntax of a simple declarative sentence, the two are different with regard to the *morphs* and also *the syntax* used in marking plurality.

3.2:2 Plurality In Kalenjin

Plurality in this language is very complex because it is marked on nearly all the words which make up a sentence. Although our focus is on how it is marked on nouns, we shall give brief descriptions of how pronouns, verbs, adjectives and determiners change their forms in order to accommodate plurality.

The nouns might be divided into four groups. The first group is that of nouns which take a plural suffix. For example:

TL	NL singular	NL plural
a) calabash	sot	sotinik
b) ear	it	itin
c) friend	chorwa	chorwai

Although a generalized rule is Noun + affix, we should note that the form of the affix shows great variability.

The second group of nouns is one whose members are *mass nouns* and are therefore regarded as uncountable. They do not have plural forms. For example:

TL	NL
a) water	bei
b) milk	cheko

Like English which has some nouns that undergo an internal morphological change so as to mark plurality (e.g. foot - feet), the third group of nouns in Kalenjin has nouns which change internally.

TL	NL (singular)	NL(plural)
a) child	lakwet	lakok
b) thief	chorindet	chokik

The last group has nouns whose corresponding singular and plural forms are so different that one might be tempted to think that there is no relationship between the two forms. For example:

TL	NL singular	NL plural
a) cow	teta	tuka
b) girl	chepto	tipik
c) sheep	artet	nego

Some verbs in Kalenjin have different forms for singular and plural and others do not. My analysis did not yield specific linguistic

patterns which can be used to isolate those that change forms from those that do not. Let us illustrate this with the following sentences.

30(a) TL: The boy is coming.
(b) NL (singular): Nyone ngetet.
(c) NL (plural): Bwone ngetik.
Syntax: (Plural + Verb) + (Noun + Plural) s.

31(a) TL: The boy cut the tree.
(b) NL (singular): Kotil ngetet ketik.
(c) NL (plural): Kotil ngetik ketik.
Syntax: Verb + (Noun + Plural) + (Object + Plural) s

32(a) TL: The boy kicked the ball
(b) NL (singular): Koitiar ngetet imbiret.
(c) NL (plural): Koitiar ngetik imbirok.
Syntax: Verb + (Noun ^{1} + Plural) + Noun ^{2} + Plural) s

Adjectives in Kalenjin also change from one form to another whenever the intended meaning is in plural. The two sentences below illustrate this.

33(a) TL: This girl is beautiful.
(b) NL (singular): Kararani chepto.
(c) NL (plural): Kororoni tipik.
Syntax: [(Adjective + Plural) + (Noun + Plural)] s

34(a) TL: The egg she gave me is rotten.
(b) NL (singular): Sames mayaiyet neko kona.
(c) NL (plural): Somis mayaik cheko kona.

s [(Somis) → rotten$^{+plu.}$ + (mayaik) → egg + plu + (cheko) → plu + verb + (kona) → she]

It would appear that a number of expressions are not represented e.g. the personal pronoun *me* and the copula *is*. This is so because using the syntax we have above; the sentence might be reconstructed as: "she gave rotten eggs".

Determiners also change their form so as to accommodate plurality. We shall illustrate with only one type of determiner so as to shed some light on the morphological changes that occur on the definite article *the*.

	TL	**NL singular**	**NL plural**
a(i)	dog	sese	sesen
(ii)	the dog	seset	sesenik
Syntax:		[dog + the]	[dog + plu +(plu + the)]
b(i)	enemy	punyo	pun
(ii)	the enemy	punyot	punik
Syntax:		[Noun + the]	[Noun + plu + (the + plu)]
c(i)	eye	kony	konya
(ii)	the eye	konda	konyek
Syntax:		[Noun + the]	[Noun + plu + (the + plu)]

Like for the determiners, we shall illustrate how the first person pronoun changes its form. The singular first person pronoun is **[a-]** and this is always attached to the verb so as to form a one word sentence. This form changes to **[ki-]** as in:

35(a)	TL:	I am going.
(b)	NL (singular):	Awendi.
(c)	NL (plural):	Kiwendi.

s [Ki-]→1st person pronoun + plu. + [-wendi] → verb]

36(a) TL: I am sleeping
(b) NL (singular): Arue.
(c) NL (plural): Kirusot
Syntax: [(1st Person Pronoun + Plu) + (Verb + Plu)] s

s [(ki-) → 1st person pronoun + plu. + (-rusot) → Verb + plu]

The examples we have quoted illustrate that Kalenjin and English are structurally dissimilar not only in the *morphs* that represent plurality but also in *syntax*.

3.2:3 Plurality In Gĩkũyũ

Plurality is a grammatical category of nouns and pronouns (demonstrative and possessive pronouns). Most nouns (except all those that refer to specific places such as towns, and personal names) undergo morphological changes whenever they are intended to convey plural meaning. We shall use a few sentences to illustrate how some of the nouns and pronouns change from singular forms to plural forms.

37(a) TL: This man is carrying a big black basket.
(b) NL (singular) Mũndũ ũyũ akuite kĩondo kĩnene kĩirũ.
(c) NL (plural) Andũ aya makuĩte ciondo nene njirũ.
Syntax: [men + these + carrying + baskets + big + black]

[Andũ] = subject + plural
[aya] = demonstrative pronoun + plural
[makuĩte] = plural + verb
[ciondo] = plural + basket
[nene] = big + plural
[njirũ] = plural + black

The morpho-syntactic analysis of the sentence above shows that plurality affects the forms of all the words in a sentence. This is particularly so because *nouns* in Gikũyũ language, like in most Bantu languages, fall into *classes* which are identifiable by the prefixation system. The specific class-prefixes which are attached on subjects in a sentence are also explicitly marked on many other expressions and this introduces morphological changes in many words. Let us use another sentence to illustrate this.

38(a) TL: Whose shoe is this?

(b) NL (singular): Kĩratũ gĩkĩ nĩ kĩaũ?

Syntax: [Shoe + this + is + whose]

(c) NL (plural): Iratũ ici nĩ ciaũ?

Syntax: [(Shoe + plu) + (this + plu) + be + (whose + plu)] s

This example shows that all the words in the sentence except the copula change from one form to another when plurality is introduced. The table below contains a sample of nouns in Gĩkũyũ in their singular and plural forms. We have also included the forms of the demonstrative determiner *this - these* which would collocate with specific nouns.

			Corresponding Determiner	
TL Noun	NL(SINGULAR)	NL(PLURAL)	SING	PLU
person	mũũndũ	aandũ	ũyũ	aya
tree	mũtĩ	mĩtĩ	ũyũ	ĩno
house	nyũmba	nyũmba	ĩno	ici
basket	kĩondo	ciondo	gĩkĩ	ici
chair	gĩtĩ	ĩtĩ	gĩkĩ	ici
child	mũana	ciana	ũyũ	ici
stone	ihiga	mahiga	rĩrĩ	maya

Table 3.A. Singular and Plural Forms of Some Nouns In Gĩkũyũ.

It is important to point out here that unlike English which has plural suffixes on nouns, Gĩkũyũ has prefixes on nouns to mark plurality. We can also see that the demonstrative determiner *this* has many forms in Gĩkũyũ and that the form it takes depends on the form of the noun it collocates with. Possessive pronouns also change from one form to another whenever they convey plural meaning. For example:

TL	NL sing	NL plu
a) my book	ibuku rĩakwa	mabuku maitũ
b) his book	ibuku rĩake	mabuku maao
Syntax:	[book + poss]	(plu + book) + (poss + plu)

A contrastive analysis between English and this native language shows that the two languages are dissimilar in the ways plurality is marked.

In the next section we shall present brief descriptions of the third structure which is under investigation.

3.3:0 Negation In English

Although the focus in this study is on the syntax for the negative particle *not* and its contracted form *n't*, we are aware that there are many other ways of marking negation in English. For instance; such words as: nowhere, never, seldom, hardly etc. convey negative meaning.

The particle *not* which is the commonest, is placed immediately after the first auxiliary in the verb phrase.

39(a)	He is coming.	SD:	X + Aux + V + ing
(b)	He is not coming	SC:	X + Aux + Neg + V + ing

If a sentence does not have an auxilary structure as part of the verb phrase, then it requires that an operator or dummy *do* be inserted between the subject noun and the verb. The form of *do* which is inserted depends on the tense in the main verb. Then the negative particle is introduced between *do* and the main verb. e.g.

40(a)	She came.	SD:	X + (V + Tense)
(b)	She did not come.:	SC:	X + (do + Tense) + Neg + V.

Questions allow two main syntactic patterns of negation. These are illustrated with the two examples below:

41(a)	Is he eating?	
(b)	Is he not eating?	SD: be + X + Neg + Verb + Y.
(c)	Isn't he eating?	SC: (be + Neg) + X + Verb + Y.

42(a)	What is he eating?	
(b)	What is he not eating?	SD: wh- + be + X + Neg + Verb + Y.
(c)	What isn't he eating?	SC: wh- +(be + Neg) + X+ Verb + Y.

These examples show that the negator might be placed immediately after the subject noun in the question or after the operator *do* or *be*. Whenever the second pattern is used, as in 41 (c) and 42 (c), the *contracted negator* is preferred and expressions such as: *Is not he eating?* and *What is not he eating?* would be regarded as unacceptable.

3.3:1 Negation In Luo

We have noted that there are several ways of expressing negation in English. Like English, Luo language has various ways of marking negation. An ordinary refusal such as the English ***no*** is expressed as ***aa*** in Luo. The Luo equivalent for the English word ***nothing*** is ***onge*** while ***dak*** means the same as *never*.

In Luo the word ***ok*** means the same as the English *not* and this is the structure we are interested in. The form of ***ok*** changes whenever commands are used. We are to illustrate this shortly.

Simple declarative statements take the negative particle ***ok***. For example:

43 (a) TL: This is a fish.
(b) NL (positive): Mani en rech.
(c) NL (negative): Mani ok en rech.
Syntax: [Demonstrative Pronoun + Neg + be + Noun] s

44 (a) TL (positive): These are dogs.
(b) NL (positive): Mani gin guoge.
(c) NL (negative): Mani ok gin guoge.
Syntax: [Demonstrative Pronoun + Neg + (be + plural) + Noun] s

These examples show that the negative particle precedes the verb in the sentence. This is unlike English which has the negative particle following the first constituent structure in the Auxiliary or following *be* if it is the main verb. In English we introduce a dummy *do* if the

main verb is not the copula and if there are no other auxiliary structures. Unlike English, Luo does not introduce any such structures. The negative particle is inserted between the subject noun and the main verb. For example:

45(a) TL (positive): John frightens the children.
(b) NL (positive): John buoyo nga nyathindo.
(c) NL (negative): John ok buoyo nga nyathindo.
Syntax: [Subject + Neg + Verb + Determiner + Object] s

In some cases the language has one-word sentences because of its agglutinativity. In such cases the negator is the first constituent structure in the one-word sentence. For example:

46(a) TL (positive): I am going.
(b) NL (positive): adhi.
(c) NL (negative): okadhi.
Syntax: (Neg + Pronoun + Verb) s.

s [(ok-) → Neg + (-a-) → I + (-dhi) → Verb]

The negative particle ***kik*** is used instead of ***ok*** whenever an imperative is expressed. This form of negator is usually a prefix of the verb in a sentence. e.g.

a) TL Negative Imperative: Do not go!
b) NL Positive Imperative: Dhi!
c) NL Negative Imperative: Kikidhi!
Syntax: [kik-] → Neg + [-i-] → ? + [-dhi] → go

The [-i-] might be an intrusive phoneme which is introduced so that we do not have an impossible consonantal cluster.

3.3:2 Negation In Kalenjin

The negative morpheme in this language has four allomorphs which are in complementary distribution. These might be presented as follows:

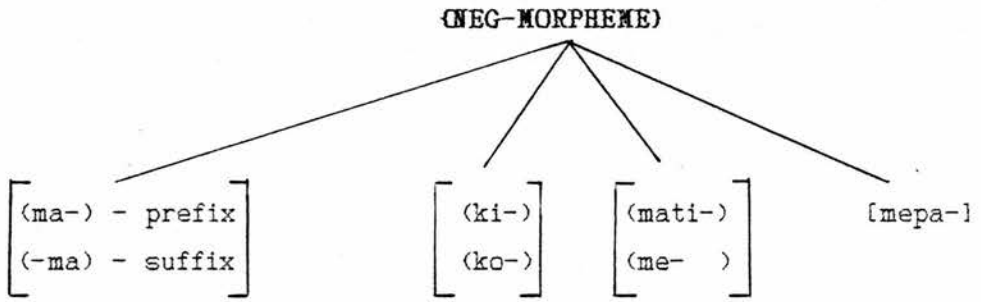


Figure 3.D Allomorphic Variants In Negative Morpheme. (Kalenjin).

The first allomorph has two variants: the suffix ***-ma*** is used only in cases where the copula verb ***be*** whose form is ***ko*** is the main verb. Thus the form ***koma*** is used to mean ***is not***. The prefix ***ma-*** occurs in all other cases. For example:

47(a) TL: I have eaten.
(b) NL (positive): Amisie. [(a-) → Subject + (misie) → Verb]
(c) NL (negative): Maamisie.
Syntax: [Neg + Subject + Verb] s.

48(a) TL: I am hearing.
(b) NL (positive): Akase [(a-) → Subject + (-kase)→Verb]
(c) NL (negative): Maakase.
Syntax: [Neg + Subject + Verb] s.

The second allomorph has two variants also. Sentences which are in the past tense take the allomorph ***ki-*** but if the implied past is a 'proximate' i.e. 'near' past, then the allomorph used is ***-ko.***

49(a) TL: I followed.

(b) NL (positive): Masup

(c) NL (negative): Kimasup. OR Komasup

Syntax: s [(ki-) → Neg + (-ma-) → I + (-sup) → followed].

50(a) TL: I cried.

(b) NL (positive): Marir.

(c) NL (negative): Kimarir.

Syntax: [Neg + Subject + Verb] s

Like the preceding allomorphs, the third allomorph has two variants. When positive imperatives are transformed to negative commands, the allomorph ***me-*** and ***mati-*** are used in free variation. For example:

	TL(pos. command)	**NL(pos. command)**	**NL(neg. command)**
a)	come!	nyo!	menyo! or matinyo!
b)	write!	sir!	mesir! or matisir!
c)	beat!	bir!	mebir! or matibir!

Syntax (Neg + Verb)

The last allomorph is used in cases where the future is implied. The allomorph is a prefix within a one-word sentence such as:

51(a) TL: I will eat.

(b) NL (positive): Amisie

(c) NL (negative): Mepaamisie.

Syntax: [(Neg + Subject + (Verb + futurity)] s.

Negation in Kalenjin is marked with prefixes and only one case of a suffix. In general the syntax of negation in this language is different from that found in the target language - English.

3.3:3 Negation In Gĩkũyũ.

Negation in Gĩkũyũ is marked mainly with three allomorphs which we might present as follows:

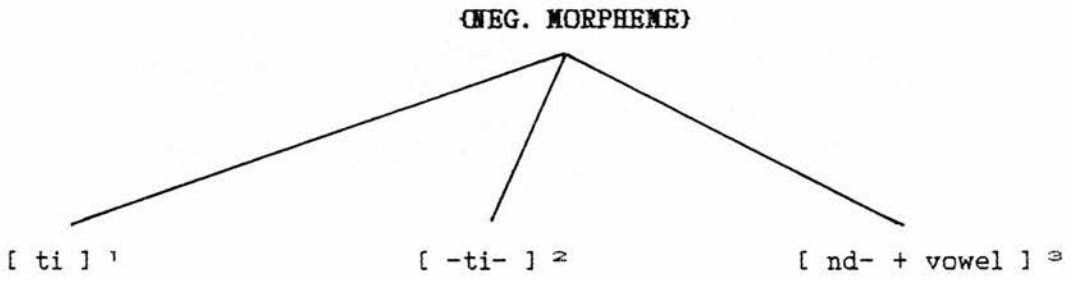


Figure 3.1. Allomorphic Variants In Negative Morpheme (Gĩkũyũ)

The three allomorphic variants are in complementary distribution such that:

(i) the allomorph ***ti*** which is the only free morph is used to negate the copula *be*. For example:

52(a) TL: This is a tree.
(b) NL(positive): Ũyũ nĩ mũtĩ.
(c) NL(negative): Ũyũ ti mũtĩ.
Syntax: This + Neg + tree.

The word ***ti*** might be taken to stand for *be* and *negation*.

ii) the second allomorph ***-ti-*** which is an infix is inserted between the Subject and the Verb in a sentence. For instance:

53(a) TL: They sing songs
(b) NL(positive): Mainaga nyĩmbo.
(c) NL(negative): Matiinaga nyĩmbo.

s [(ma-) → they + (-ti-) → Neg + (-inaga) → sing + (nyimbo) → songs].

iii) the third allomorph ***nd- + vowel*** is a prefix which seems to carry more than one meaning. It appears to stand for negation and the subject in the sentence. We are to illustrate how the two are embedded in one structure:

54(a)	TL:	I sing songs.
(b)	NL (positive):	Nyiinago nyimbo.
	Syntax:	[(Nyi-) → Subject + (inaga) → Verb + (nyimbo) → songs] s.
(c)	NL(negative):	Ndiinaga nyimbo.
	Syntax:	[(ndi→ Subject + Neg) + (inaga) → Verb + (nyimbo) → songs] s.

55(a)	TL:	John frightens children.
(b)	NL(positive):	John amakagia ciana.
(c)	NL(negative):	John ndamakagia ciana.
	Syntax:	[Subject + (Neg + subject reflexive + Verb) + Direct Object] s.

The syntactic analysis of these two sentences reveals that both the negator and either the subject or a subject reflexive might be imbeded in one structure.

It is evident from our description that both the *form* and the *syntax of negation* in Gĩkũyũ are incongruent to the ones found in English.

3.3:4 Conclusion.

The descriptions presented do not constitute detailed grammar of the structures under investigation. Our intention was to present brief descriptions which focus on the *forms* and the *syntactic patterns* which are found in the three source languages and those in the target language. The brief morpho-syntactic descriptions reveal that the native languages are markedly dissimilar to English. This does not mean that we are predicting learning difficulties, rather we shall use these contrasts when assessing whether our subjects' interlanguage was organised along their source langugage or not.

We now proceed to present the Pilot Study.

CHAPTER FOUR

4. The Pilot Study

4.0 Introduction

This chapter contains the descriptions of the subjects who participated in the pilot study, the elicitation instruments, the elicitation and scoring procedures, and the results which were obtained in the pilot study.

Since the object of our pilot study was to assess the suitability of the elicitation instruments and consequently the feasibility of the main experiment - which is reported in Chapter Five - we shall therefore reserve detailed presentation of results until Chapter Five. Our point of departure in the formulation of the research techniques to be followed, the theoretical background in the research and the hypotheses to be tested is Brown's (1973), longitudinal research, which pointed out that the acquisition of certain functors or grammatical morphemes follows a universal developmental sequence. Subsequent researchers observed the presence or absence of a functor in *obligatory contexts*. An obligatory context, or occasion, is a specific locus where native speech in a language would require the presence of a specific functor. Furthermore, SLA researchers have arbitrary criterion points to determine whether a learner is regarded as acquired or not acquired.

Like many SLA researchers, we adopted a cross-sectional approach because it is less time-consuming. In addition, our research methodology is mainly an analysis of errors (Corder 1967) which investigates errors without preconceived causes of the errors. Such an approach is used by Altenberg and Vago (1983) - reviewed in Chapter Two.

4.0.1 The Pilot Subjects

A sample of 24 subjects was randomly selected to participate in the pilot study. They were drawn from four school levels: Primary 6, 7, 8 and Secondary Form 2. These school levels will henceforth be referred to as Time 1, 2, 3 and 4 respectively. There was therefore one year difference between any two successive Time levels. Each Time level was represented by six subjects. In turn the six subjects at each Time level were drawn from three different source languages: Luo, Kalenjin and Gĩkũyũ. This means that each source language was represented by two subjects at each Test Time and the total for each source language was eight subjects. The distribution of the pilot subjects is shown below:

NATIVE LANGUAGE	TIME 1	TIME 2	TIME 3	TIME 4	TOTAL
Luo	2	2	2	2	8
Kalenjin	2	2	2	2	8
Gĩkũyũ	2	2	2	2	8
TOTALS	6	6	6	6	24

Table 4.A **Distribution Of The Pilot Subjects**

Each school represents a fairly homogenous group, and the achievement levels are not expected to differ markedly. Consequently, we did not make distinctions between male and female subjects. The subjects came from two Primary Schools and one Secondary school. We used the two Primary schools because we could not get enough Kalenjin subjects from only one school. The two Primary schools are under the Municipal Council of Nakuru, and therefore they use similar types of text books, and the

teachers do not differ greatly with regard to their educational and professional qualifications.

The ages of the subjects ranged from 12 years to 17 years, and they had attended school for at least five years. At the time when the pilot study was conducted, those in Primary 6 had just completed the first term of their 6th year. The main study followed a month later. Our subjects were acquiring the TL in non-naturalistic settings, i.e. in formal classrooms where, as indicated in Chapter One, the medium of instruction is English. English is also extensively used in non-school environments, particularly in the urban areas where our subjects live. This means that besides being exposed to the target language in schools our subjects use the language in non-formal environments. But these non-formal environments do not involve native speakers of the language. Consequently, we might conclude that both the school and other social situations where English is used are, nevertheless, *Acquisition Poor Environments.*

4.1:0

Elicitation Procedures

An elicitation procedure (Corder (1981:61) is any procedure which causes a learner to make a judgement about the grammatical acceptability of a form or provokes him into generating a linguistic response. The judgement or responses he makes are dependent upon the state of his interlanguage.

There are many elicitation procedures open to researchers: *spontaneous speech observation:* Kenyeres (1938), Malmberg (1945), Ravem (1968), Brown (1973), de Villiers and de Villiers (1973); *instrumental elicitation:* Dulay, Burt and Hernandez (1973) devised BSM, Fathman (1975) used SLOPE, *elicited imitation*: Freeman (1975), *composition writing*: Krashen, Butler, Birnbaum and Robertson (1977) and also *reading, writing, listening* tasks: Freeman (1975).

The distinction made by Ellis cited in Davies et al (1984:282) is important for our formulation of the research procedure. He says that research methods should be described along three dimensions: Time, Data collection, and Data processing. Our pilot study and the main experiment are cross-sectional. Data was collected via elicitation instruments, and the scoring system, which is to be described shortly, enabled us to quantify the learners' responses.

In order that we might get interlanguage data, we had to put *constraints* (Corder (1981:61) upon the learners so that they were forced to perform a series of tasks involving the following:

(i) making a selection from a restricted set of choices.
(ii) manipulating tasks which required a recognition and correction of predetermined errors.
(iii) manipulating tasks which required several types of transformations, e.g. changing positive sentences to negative ones, singular to plural and from one tense type to another.
(iv) performing two pictorial description tasks.
(v) translating sentences from Kiswahili to English.

Such controlled elicitation procedures have advantages over spontaneous data elicitation procedures because as Corder (1981:126) says, they are *Error-provoking* while the latter might involve *error-avoidance*. What Corder seems to be suggesting is that a learner can avoid certain structures and a researcher might not have evidence for interlanguage. But in structurally controlled elicitation a learner is expected to react to the provocation in a pre-determined way. This means that a researcher is able not only to get data for IL but he can also detect the specific structures which a learner might be avoiding.

In order that an elicitation might provoke errors, a researcher prepares distractors which appear plausible to learners. Such distractors must be based on the types of errors which learners make. We used many elicitation items which had appeared in past English language examinations set by the Kenya National Examination Council. We

assumed that such items must be based on the background knowledge of the types of errors made by learners of English as a second language in Kenya.

Although we administered four elicitation instruments, it is important to point out here that the obligatory contexts for each functor will be the sum of its occurrences in the four elicitation instruments. This means that the four instruments are regarded as one continuous elicitation instrument in which learners are seen as performing different task types in different sections. Our intention was to have a large data base on which to make our decisions about the IL.

The subjects were allowed a maximum of forty minutes for each of instruments one and two, and a maximum of sixty minutes for each of instruments three and four.

We shall now present brief descriptions of how each structure under investigation was elicited.

4.1:0

.1 Elicitation of Regular Past Tense

This functor was elicited in nine structurally predetermined obligatory contexts. Besides these we observed those contexts which were created by individual learners on the two pictorial description tasks Appendix A_4 Section B. One of the 9 tasks was a multiple type task (Appendix A_1 item 11). Two others in Appendix A_1 (items 21 and 23) were manipulation tasks which contained non-target forms of the tense and learners had to identify and correct the errors. The regular past-tense was also tested in three other tasks (Appendix A_2 items 13, 15, and Appendix A_3 item 21) which required learners to write out suitable forms of specific verbs. These verbs were in sentences. Then Appendix A_4 had two translation tasks (items 1 and 5) which were structured in such a way that the suffix -ed would be used in three verbs.

4.1:0

.2 Elicitation Of Irregular Past Tense

A total of fifteen controlled contexts required the irregular past tense in verbs. Six of these were objective type tasks - Appendix A_1 items 1, 2, 9, 13, 17 and 19. The first two had *be* and *have* as the main verbs but the others had lexical verbs. We induced learners to think of possible errors and to make the necessary corrections in three tasks: Appendix A_1, item 21 and Appendix A_2, item 8. Item 8 had two verbs which take the irregular past tense. Then there was a set of five tasks involving transformation from non-past tense to past tense: Appendix A_2 item 11, and Appendix A_3 items 22 to 25. Only one translation task (Appendix A_4 item 3) was set. It is important to point out here that the set of target verbs which we had in the tasks included some that undergo internal morphological changes e.g. *leave/left, buy/bought*; and some that do not change form e.g. *read/read, cut/cut*. In addition to the fifteen controlled occasions for the irregular past tense we also observed those contexts that were created by individual learners within the pictorial description tasks.

4.1:0

.3 Elicitation Of Non-Past Tense

Besides a set of thirteen predetermined occasions which were distributed in the four elicitation instruments, we also analysed those which learners created in their compositions. The tense was tested in six different task types: three multiple type tasks in Appendix A_1 items 6, 16, and 20, two grammaticality judgement tasks in Appendix A_2 items 1 and 6, and two others in the same Appendix (items 9 and 17) were transformation tasks which involved changing verbs from one form of the non-past tense to another in the same tense. The target verbs were supplied in brackets. Three other tasks in Appendix A_3 items 6, 7 and 9 were also transformation tasks. Learners were asked to write some sentences in the negative form and in doing so, some verbs changed from

one form of non past tense to another in the same tense. Three translation tasks (Appendix A_4 items 2, 7 and 10) were set.

4.1:0

.4 Elicitation Of Regular Plural

Five different task types were used to elicit data for this functor. One of these task types was in the form of composition in which learners described what they thought was happening in Picture 3 and 4 of Appendix A_4. The other four task types had a total of 34 obligatory occasions which were distributed as follows:

i) The four multiple type tasks were in Appendix A_1 (items 7, 8, 10 and 18). Among these we had two which had compound noun structures, e.g. assistant director.

ii) There were five grammaticality type tasks in which the suffix -s was omitted. They are Appendix A_1 item 22, and item 26 which had four contexts that require the regular plural.

iii) Nineteen contexts in singular to plural transformation tasks: Appendix A_2 items 10, 16 and Appendix A_3 items 11-19. These might be divided into two categories: the first consisting of those items which had contextual clues provided e.g. the noun to be transformed from singular to plural was supplied in brackets, and it appeared after quantifiers such as many, all. The second category is that in which no contextual clue is supplied, but the instructions read that the sentences have to be written in plural.

iv) Apart from the instructions which stated that the sentences had to be written in English, learners were supplied with Picture 2 to help them translate the six tasks in Appendix A_4 items 4, 5, 6, 7, 8 and 10.

4.1:0

.5 Elicitation of Irregular Plural

Like the preceding functor, the irregular plural was tested in five different task types but in only 15 structurally predetermined obligatory contexts. We set six multiple type tasks (Appendix A_1 items 3, 4, 5, 12, 14 and 15). In order that we might have variation we included some nouns which undergo internal morphological changes (e.g. wolf/wolves) and one that does not change form (i.e. pocket money). We also considered that 'pocket money' is a compound noun structure and all the rest were single noun structures. The three grammaticality type tasks (Appendix A_1 items 24, Appendix A_2 items 3 and 4) had errors in form of double marking of plurality as in *policemens*, and also using the regular plural form instead of the irregular plural form as in *halfs*.

In order to help learners write three target nouns in their plural forms (Appendix A2 items 12, 14, and 18), sufficient contextual clues were provided in the tasks. Finally, the learners performed translation tasks: Appendix A_4 items 5, 7, and 8. The contexts created for Irregular Plural in the short composition (Appendix A_4) were also assessed.

4.1:0

.6 Elicitation Of Negation

Our focus in this research project is on negation with the particle *not*. We hoped to elicit data that would reveal learners' developmental stages in the acquisition of the functor. Secondly we assumed that the data we elicit would reveal learners' IL syntax, particularly the placement of *not* within a syntactic string.

The functor was observed in 25 obligatory contexts distributed among four task types: grammaticality judgement type tasks - Appendix A_1 items 25, 27, Appendix A_2 items 2 and 5. Four of these tasks had the non-target form *no* and one had the negator *not* omitted.

Each of the five Gap Filling Type tasks (Appendix A_2 items 19-23) had three gaps and only one gap would correctly be occupied by the negative particle *not*. Learners had to choose the correct gap and fill it with the particle *not*. We also set ten affirmative-to-negative transformation tasks (Appendix A_3 items 1 - 10) and six translation tasks Appendix A_4 items 2, 3, 4, 6 and 9. Item 3 had 2 contexts. In addition to these we observed the obligatory occasions created by individuals in the composition tasks.

4.2:0 Indices

Before we describe the techniques used in scoring and analysing the data, let us discuss some indices which we regarded as important.

Since the main objective in the pilot study was to determine the suitability of the elicitation instruments we calculated reliability indices, facility value and discrimination indices. This was not possible with all the tasks. For instance, the transformation, translation and grammaticality judgement type tasks were expressed in various ways which are acceptable, but the target forms which we were interested in were not used. This means that although the sentences were acceptable, we could not calculate some indices for the tasks.

We shall therefore report indices for the items which are discrete and have only one acceptable answer. The suitability of the composition tasks was determined impressionistically.

4.2:0

.1 Reliability Index

Reliability is a necessary characteristic of any good test. If a test is reliable then the results obtained from it show consistency (Heaton 1975:155) or stability (Lado 1961:330). What this means is that if a test is administered to the same candidates on different occasions without any instructions, then the results obtained on the different occasions should not show great disparities. This does not suggest that such results should be identical but the fluctuations, if any, should be minimal.

Several methods might be used to *estimate* the reliability of a test. In general, we correlate two sets of scores of the same student(s) on the same test or on equivalent forms of the same test. *The Split-Half Method* was used in this research project. This consists in giving a test once and then dividing it into two similar parts or halves. Hatch and Farhady (1984:246) suggest that if a test is homogeneous all the *odd numbered items* may be regarded as one half and the *even numbered ones* the other half. A correlation coefficient is calculated between the two halves and this yields the reliability for half the test. In order to estimate the reliability of the whole test, we use Spearman Brown's Prophecy Formula. A high positive correlation coefficient suggests that the test is reliable.

The four instruments have a total of 85 items. Out of these items only 66 have only one correct answer (Appendix A_1, items 1 - 20, Appendix A_2 items 9 - 25, Appendix A_3 items 1 - 25, and Appendix A_4 items 1, 5, 7, 8, 9 and 10. We divided the 66 items into two split halves. All the odd numbered items form one part and all the even numbered items form the other half. This means that we are looking at 77.65% of the numbered items which are in the four instruments. We counted the number of correct items which each subject got right. Frequency counts were made on the basis of getting each item correct irrespective of how many obligatory contexts it had. This means that if a learner did not get all correct answers in all the contexts, he/she

was regarded as *not correct*. The results of our frequency counts are in Appendix B_1. The estimated reliability coefficient for half the test is 0.7966. We used Spearman Brown Prophecy Formula so as to calculate the reliability coefficient for the 66 items. The formula is:

$$rk = \frac{2r_1}{1 + r_1}$$

where r_1 is the reliability for half the test.

The estimated reliability coefficient for the four instruments based on the 66 items (77.65%) is 0.886. This is a sufficiently high coefficient of reliability for us to feel confident that the tests were reliable for our elicitation purposes.

4.2:0

.2 Facility Value

The Facility Value (FV) of an item shows how easy or difficult a particular item proved to be in a test. This index is expressed as a fraction or percentage of the students who answered the item correctly against the number of students who did the test. The formula used is:

$$\text{Facility Value} = \frac{R}{N}$$

where R is the number of those who got an item correct and N is the number of those who did the test.

Although it is desirable to have a Facility Value of 0.5 or 50%, tests normally have items which vary in Facility Value. An item with a high FV is considered to have been very easy and it will therefore not

distinguish between above average and below average students. On the other hand a very difficult test item will have a low FV. Such an item also fails to discriminate among most students but it will separate very good students from very poor students.

There have been arguments in support of the inclusion of items covering a range of difficulty levels so that the easy items will motivate the poor students and the relatively more difficult ones will motivate the able learners. The Facility Value (FV) of only those items which had *one* correct answer are in Appendix B_2.

The other tasks: grammaticality judgement type tasks (Appendix A_1 items 21 - 27, Appendix A_2 items 1 - 8) and translation type tasks (Appendix A_4 items 2,3,4 and 6) could be corrected in several different ways without being ungrammatical or unacceptable. Some illustrations are presented in Chapter 5 Sections 5.2:1.2, 5.3:2 and 5.6:4.

Three items - Appendix A_1 item 15 and 19, and Appendix A_2 item 9 each with a Facility Value of 0.2 might be regarded as having been fairly difficult to the subjects. But a FV of 0.2 is within the range (0.15 - 0.85) which is set by Oller (1979:249). A different range of 0.4 to 0.6 is set by Heaton (1975:175).

Since most of the items have a FV which falls within the accepted range, we considered the items as suitable for our research purposes.

4.2:0

.3 Discrimination Index

The Discrimination Index (DI) of an item indicates the extent to which an item discriminates between the poor and the good students. Two assumptions are made: Firstly, the overall mark for a student is assumed to be a valid measure of his ability. Secondly, the good student will always do well on the test and his ability should be reflected in the way he scores in individual test items.

One of the several methods used to obtain the Discrimination Index of an item is to make a comparison between the upper third and the lower third of the subjects who did the test. However, if the sample is small, it may be divided into an upper ½ and a lower ½. Since we have only 24 subjects we divided them into two halves.

The Discrimination Index ranges from +1 to -1. If a test item has a DI of +1 it is considered to have discriminated perfectly such that the good students get the item correct and the poor students do not get it right. An item which has a DI of ZERO does not discriminate in any way at all. A Discrimination Index of -1 suggests that the good students failed to get an item right and the poor students got the item correct. This is discrimination in the wrong direction. The Discrimination Indices for 66 items are presented in Appendix B_2.

The reason for calculating indices for 66 out of the 85 items is advanced in the section above. Since none of the items has a DI = 0 or DI = -1, we concluded that the items are suitable for the data elicitation purposes.

It is important to point out here that when calculating the FV and the DI we considered a subject as either *wrong* or *right* and there were no *half credits* awarded. We shall now proceed to discuss different methods which were used in scoring learners' responses and analysing the results.

4.3.0 Scoring And Data Analysis Procedures

We adopted the scoring and data analysis procedures which were used by Brown (1973) and Dulay and Burt (1974). The two key notions are: *Obligatory Occasion* and *scoring each obligatory occasion* as an item.

4.3:0

.1 **Obligatory Occasion**

Dulay and Burt borrowed these notions from Brown (1973) who said that 'each obligatory occasion may be regarded as a kind of test item. A child passes if he supplies the required morpheme or fails if he supplies none or one that is not correct'. Brown also said that such a performance measure i.e. the percentage of morphemes supplied in obligatory contexts should not be dependent on the topic of conversation or the character of interaction.

We shall therefore focus our attention on the 111 obligatory occasions which are in our four elicitation instruments. Furthermore it is our hope that when writing the two short pictorial descriptions, learners will create for themselves other obligatory occasions for some, if not all, the functors which we are interested in. Learners might supply the correct forms of the functors, or supply misformed ones or even fail to supply any.

4.3:0

.2 **Scoring Obligatory Occasions**

We treated each obligatory occasion as a test item and adopted a ternary scoring system which is as follows:

(i) if a learner did not supply a functor in its obligatory occasion, he was scored *zero*.

(ii) if a learner supplied a misformed form of a functor, he was scored *one*.

(iii) if a learner supplied the correct form of a functor, he was scored *two*.

Since this method stresses the suppliance or non-suppliance of forms of a functor in obligatory contexts only, a learner who supplies a functor in non-obligatory contexts does not get any score. The weaknesses inherent in this scoring technique were discussed in Chapter Two. But most of the tasks which we administered are in the form of predetermined obligatory occasions. This means that we have constrained learners in their production of specific functors.

The method is useful because it enables us to quantify both the learners' output and the contexts in which Native Speech would require the target structures.

4.3:0

.3 Group Score Method

As the name suggests, a group of subjects for whom an acquisition order is to be determined receives a single score for each functor which is under investigation. Our subjects will be arranged along two main dimensions: *Time* and *Source Language*.

A group score in each functor is usually a ratio whose denominator is the sum of all the obligatory occasions where each occasion is worth two points in the functor across all the members of the group. The numerator is the sum of all the scores for each obligatory occasion of the functor across all the members in the group. The resulting quotient is normally multiplied by 100. The formula which we use is as follows:

Group Functor Score

$$\text{For Functor } \chi = \frac{\Sigma \text{ scores for each obligatory context}}{\Sigma \text{ in all obligatory contexts for functor } \chi} \times 100$$

The structures under investigation might be arranged according to decreasing group scores. The sequence obtained is assumed to be an order of acquisition for the group for whom the scores were calculated. If there are several groups, then their respective orders of acquisition may be compared. The Spearman Rank order correlation is useful in determining the degree of similarity between orders of acquisition which might be shown by different groups.

One disadvantage with this method is that it conceals a lot of information about variable performance of the individuals in the group. For example, a learner might supply the correct form of a functor only once. If a Group Functor Score is calculated and it is found to be equal to or greater than the criterion mark for *acquired*, all the individual members of the group are regarded as *'acquired'*. Furthermore the score for learners with very few obligatory contexts affects the score for groups of learners. In order to reduce the amount of variability caused by such differences, linguists use the Group Means Method.

4.3:0

.4 Group Means Method

A group functor score is affected by the subjects with very few obligatory occasions for a specific functor. This is particularly the case in spontaneous speech or in free compositions where a subject might consciously avoid using certain structures which a researcher might be interested in. To reduce variability which might be caused by the unequal number of obligatory occasions shown by individuals within a group, all the subjects who have shown *less than three* obligatory occasions for a specific functor are excluded from the sample on which a functor score is being calculated. The formula which we quoted above is applied; but this time it gives Group Means Score, (Dulay and Burt (1974:45)).

One advantage with this method is that it reduces variability which often leads to *unnatural orders*, but it would appear that "three

obligatory occasions" as a criterion was arbitrarily chosen. Andersen (1978:232) says that he included individuals if they had at *least five* obligatory occasions. Krashen (1978:189) has noted that if orders of acquisition have to show any significant correlations, the research data must be based on *not less than ten occasions* for each morpheme.

The least number of structurally controlled obligatory occasions for any morpheme in our study is nine.

A subject is regarded as having acquired a functor if he supplies it correctly in 90% or more in the obligatory contexts: Dulay and Burt (1974: 48), Porter (1977:45), Wode et al (1978:175). But Andersen (1978:255) prefers 80% as the critical point for *acquired*. It would appear that the critical point is also set arbitrarily. We shall use 80% as our criterion point in this research project. After a cut-off point has been decided a researcher converts the figures into a binary system such that all the scores that fall between zero and the cut-off point are scored ZERO. This is interpreted as *Not Acquired*. The scores which fall between the critical point and 100 are scored ONE, which means *acquired*.

4.4:0 Results

We used the ternary scoring system to calculate functor scores for individual leaners and also for groups. We also assessed the types of IL forms which were used to approximate each target structure. The results which we obtained are presented in the sections that follow.

4.4:0 .1 Interlanguage Grammar For Regular Past Tense

Evidence from an analysis of the non-target forms which were substituted for the target *verb + ed* showed that learners seemed to be using a system of three approximative forms. We used frequency counts of

each form so as to find the order of preference. Our results showed the following:

[Verb +-Ø]	>	[Verb +-ing]	>	[Verb +-s]
36.5%		33.1%		30.4%

Since we are also interested in finding out whether learners who are located at different test times use similar approximative forms we calculated the percentages of error in each of the three IL forms at each Time level. The results we obtained are in the table below.

TIME	SEQUENCE OF PREFERENCE			
1.	[Verb +-Ø]	>	[Verb +-ing] >	[Verb +-s]
	36.8%		33.1%	30.1%
2.	[Verb +-ing]	>	[Verb +-s] >	[Verb +-Ø]
	35.8%		33.6%	30.7%
3.	[Verb +-Ø]	>	[Verb +-ing] >	[Verb +-s]
	41.7%		32.0%	26.2%
4.	[Verb +-Ø]	>	[Verb +-ing] >	[Verb +-s]
	39.1%		33.3%	27.5

Table 4:B IL Forms Used To Approximate Verb +-ed

The data in the table suggests two important things. Firstly, the interlanguage grammar is rule governed and secondly learners located at different Time levels use similar interlanguage forms. Learners from the three native languages also used similar IL forms.

4.4:0

.2 Interlangauge Grammar For Irregular Past Tense

Our description of the irregular past tense in the preceding chapter showed that we cannot lay down a single morpho-syntactic rule which can capture the many varied forms used to represent this tense type. What we report are the IL forms that were frequently used as approximative substitutes for the tense. We made frequency counts for each IL form and converted the frequencies into percentages. This was for the purpose of ordering the IL forms. Using the relative frequency of use we established implicational orders of preference. We did the same for learners who are located at the four time levels. The results obtained are presented in the next table.

GROUP	ORDER OF PREFERENCE			
All learners	Verb +-Ø >	Verb +-ing >	Verb +-ed >	Verb +-s
	38.6%	28.7%	26.8%	5.8%
Time 1 Learners	Verb +-Ø >	Verb +-ing >	Verb +-ed >	Verb +-s
	42.8%	26.2%	23.0%	8%
Time 2 Learners	Verb +-Ø >	Verb +-ed >	Verb +-ing >	Verb +-s
	36.5%	30.9%	29.2%	3.4%
Time 3 Learners	Verb +-Ø >	Verb +-ed >	Verb +-ing >	Verb +-s
	43.8%	32.2%	18.2%	5.8%
Time 4 Learners	Verb +-ing >	Verb +-Ø >	Verb +-ed >	Verb +-s
	49.4%	25.9%	18.5%	6.2%

Table 4:C IL Forms Used To Approximate Irregular Past Tense

The data in the table shows that there was tremendous variability, which will be discussed in Chapter Six.

-

4.4:0

.3 Interlanguage Grammar For Non-Past Tense

A structural analysis of target language forms in the items which were set to assess the learners' acquisition of the non-past tense shows that the target language verbs would have been in either of these forms: Verb +-s, Verb +-Ø, and Verb +-ing. It is appropriate that we should focus on the forms which were used to approximate these three target forms.

Each of the three forms attracted a set of three hierarchically ordered IL forms. Where the target was *Verb +-s*, we observed Verb +-Ø > Verb +-ed > Verb +-ing. The second target i.e. *Verb +-Ø*, was substituted with Verb +-s > Verb +-ed > Verb +-ing and the third: *Verb +-ing* had three substitutes also, viz. Verb +-Ø > Verb +-ed and Verb +-s. These interlanguage forms were used by all learners irrespective of their linguistic background or location along the Time scale.

4.4:0

.4 Interlanguage Grammar For Regular Plural

We have taken ___N+ { -s. / -es. } to represent the target language rule

for this functor. An analysis of the learners' responses showed that learners used three types of interlanguage forms: zero plural marking

(ie Noun +-Ø), N + -ies and N + -es plural marking. Although -es is one of the target language forms (see the rule above), it was used as a suffix of nouns which normally do not take the -es suffixation, hence it was taken as error. A comparison in the relative use of these three IL forms showed that learners tended to prefer the zero plural marking. Besides this we also noted that the relative frequencies in the use of the target language forms increased over time.

4.4:0

.5 Interlanguage Grammar For Irregular Plural

The irregular plural is like the irregular past tense because we cannot state one morpho- syntactic rule for the functor. Our interest is in the interlanguage structures which learners used to approximate the target language forms. The learners interlanguage grammar was in the form of an implicational continuum which might be represented as follows:

[Noun +-s] > [Noun +-Ø] > [Noun +-es]

These interlanguage forms were used at the four Test Times, but the relative frequency of each decreased over time.

4.4:0

.6 Interlanguage Grammar For Negation

The tasks which we set to elicit IL data for negation were varied such that some items required learners to correct the non-target form *no* so as to read *not* and others required that *not* be supplied in its obligatory syntactic position within sentences. Our analysis of the learners' responses showed that their IL grammar ranged from zero marking of negation to the use of the negative particle in non-target syntactic positions. Detailed discussions will be made in Chapters Five and Six.

We shall now present the sequences of acquisition.

4.5:0 Orders of Acquisition

The Group Score Method was used for the purpose of calculating group functor scores, which are shown in Appendix B_4. Using the group functor scores we were able to *rank* the six functors. In order to find out whether the different groups show similar orders of acquisition we calculated Spearman Rank Order Correlation coefficients which are presented in the table below.

TIME	1	2	3	4
1	.	0.87	0.97	0.81
2	.	.	0.89	0.56*
3	.	.	.	0.81

TIME 1	Luo	Kalenjin	Gĩkũyũ.
Luo	.	0.87	0.61*
Kalenjin	.	.	0.81

TIME 2	Luo	Kalenjin	Gĩkũyũ.
Luo	.	0.69*	0.8
Kalenjin	.	.	0.96

TIME 3	Luo	Kalenjin	Gĩkũyũ.
Luo	.	0.99	0.94
Kalenjin	.	.	0.93

TIME 4	Luo	Kalenjin	Gĩkũyũ.
Luo	.	0.77	0.6*
Kalenjin	.	.	0.3*

ALL	Luo	Kalenjin	Gĩkũyũ.
Luo	.	0.96	0.9
Kalenjin	.	.	0.93

Table 4.D Correlation Between Orders Of Acquisition Values In Rho. Based On Data in Appendix B_4. All Values Are Significant At 0.05 Level Except Those Marked *

The diagram below shows that there is tremendous variation between learners located at different test times. But the groups seem to conform to a similar order of acquisition.

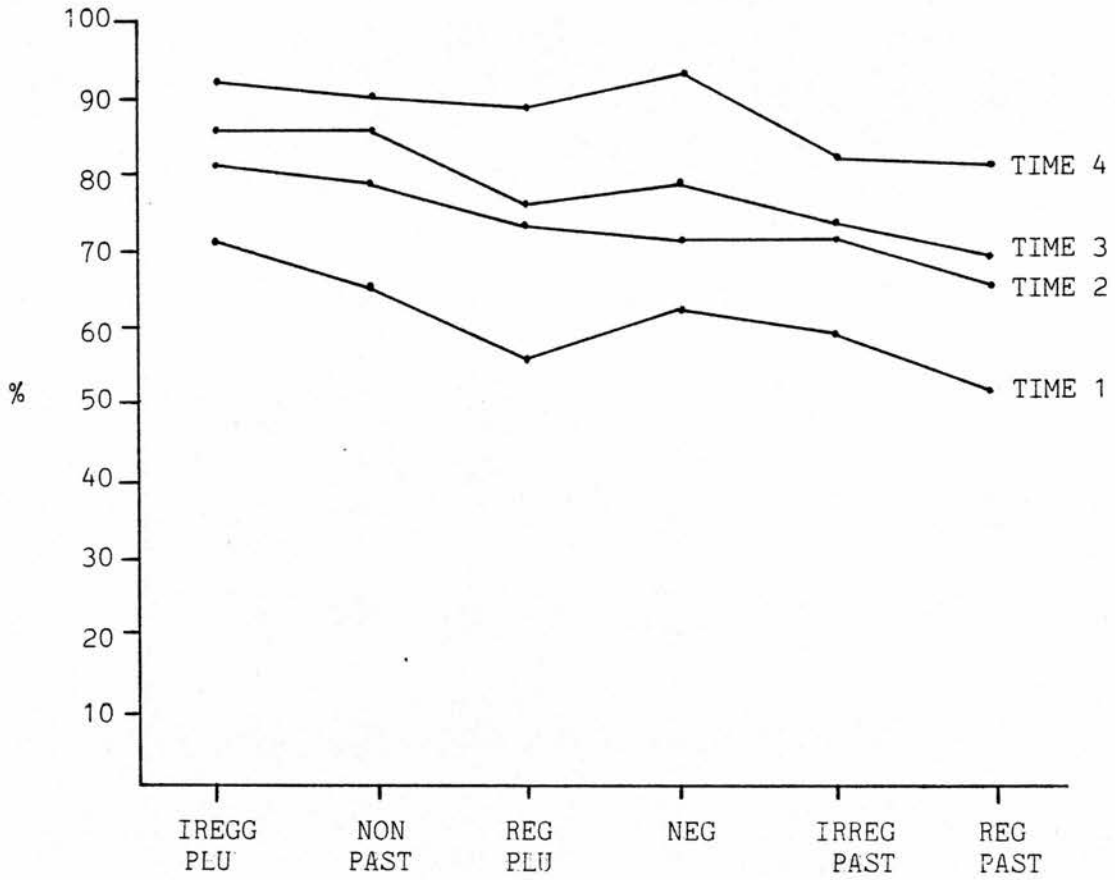


Figure 4.0 **Comparison Of Group Relative Accuracies In 6 Ordered Functors. Obtained By Group Score Method. Based On Scores In Appendix B_4.**

4.6:0 Implicational Scaling

The functor scores for each pilot subject (Appendix B_3) were added up and the total was used for the purpose of *ranking* the learners. The results are tabulated in Appendix B_5. In order to find out whether the implicational tables in the appendix constitute a valid order, we calculated the following coefficients.

(i) Coefficient of Reproducibility C rep.

$$\text{Crep} = 1 - \frac{\text{total number of errors}}{\text{total number of responses}}$$

$$\text{Crep} = 1 - \frac{9}{144}$$

Crep 0.94

(ii) Minimal Marginal Reproducibility MM rep.

$$\text{MM rep.} = \frac{\text{number of correct responses}}{\text{number of responses}}$$

$$= \frac{59}{144}$$

MM rep. = 0.41

(iii) Percentage improvement in reproducibility = C rep. - MM rep.

0.94 - 0.41

= 0.53

(iv) Coefficient of Scalability = $\frac{\text{\% improvement in reproductivity}}{1 - \text{MM rep.}}$

$$= \frac{0.53}{0.59}$$

$$= 0.90$$

The criterion set by Nie et al (1975: 533) for the coefficient of reproducibility is $\geq$ 0.9 and Hatch and Farhady (1982:181) set the criterion for coefficient of scalability as $\geq$ 0.6. Our results seem to suggest that the tables in Appendix B_5 are valid.

4.7:0 Conclusion

The results which we obtained from the pilot study are important for several reasons. Firstly, they showed that we could rely on the instruments for the purpose of eliciting language learner language. Secondly, they showed that by varying the elicitation tasks we are able to provoke learners to generate variable interlanguage forms. The use of varied methods is recommended by researchers: Frith (1982:162), Lightbown (1983:103). Frith (ibid) says:

> the data base for any study which has as its goal the description of the grammar should come from a variety of contexts and be gathered with a variety of methods in order to achieve as valid and as reliable a description as possible.

Frith used such tasks as: picture description, story-making from sequential picture cards, story-telling and re-telling, and also free conversations.

Thirdly, we learnt that there was need to clarify the instructions for the translation tasks because some learners tried to render word for word translations. Fourthly, on the basis of the results we were able to set out the hypotheses which are stated in the next two chapters. Let us now proceed to present the results from the main experiment.

CHAPTER FIVE

5. The Main Study

5.0 Introduction

This chapter which is also referred to as the main study or the main experiment contains the following information:

i) the subjects who participated in the research project.

ii) the administration of the elicitation instruments.

iii) the five hypotheses to be tested.

iv) the learners' performance results.

v) some preliminary analyses and discussions.

5.0:1 The Subjects

The subjects in the main study were originally sixty, but one of them, from the Gĩkũyũ sample at Time 3 did not participate in the entire research exercise because she was absent from school on one of the days when we were eliciting responses. Consequently, she was excluded from the sample and the number of participants dropped to 59.

The research subjects were selected from the four Time levels. Each of these Time levels (except Time 3) was represented by fifteen subjects. The third Time level was represented by fourteen. In turn, the subjects at each Time level were drawn from the three different Kenya African linguistic backgrounds. These are: Luo, Kalenjin, and Gĩkũyũ, henceforth referred to as Group A, B and C respectively. This means that each of these native languages, except the Gĩkũyũ was represented by twenty subjects in all.

Their ages ranged between eleven and eighteen years. The Primary school sample was drawn from two different schools because we could not get the required number from only one school but the Secondary school

subjects came from one school. The distribution of the subjects is presented in the table below.

GROUP		TIME 1	TIME 2	TIME 3	TIME 4
Group A	N =	5	5	5	5
	$\bar{x}$ AGE	12.3	13.1	14.4	15.0
Group B	N =	5	5	5	5
	$\bar{x}$ AGE	12.9	13.2	13.9	15.6
Group C	N =	5	5	4	5
	$\bar{x}$ AGE	12.0	13.4	13.9	15.4

Table 5.A Characteristics Of The Subjects.

The main experiment is therefore Cross-sectional because data is collected from learners located at different Time levels but at the same time. The underlying assumption in such a 'pseudo-longitudinal' method (Faerch et al 1984:297) is that data collected at Time 1 is hypothesized to represent data collected *first* and data gathered at Time 4 represents that which would have been elicited *last* within a longitudinal study.

5.0:2 Administration Of The Instruments.

The elicitation instruments were administered within a period of two months - May and June 1985. The first two instruments were

administered in May and the other two in June. They were spread out this way because schools were getting themselves ready for the mid-year examinations and we did not want to appear to be interfering with the preparations.

The participants were allowed the same amount of time which was allowed to those who participated in the Pilot study - a maximum of forty minutes for each of instruments 1 and 2; and sixty minutes for each of instruments 3 and 4.

The three research assistants who had participated in the Pilot Study helped in the administration of the instruments.

5.0:3 **Research Design and Hypotheses.**

We noted in our Chapter four a suggestion made by Ellis (cited in Davies et al (eds) 1984:282) that research methodologies are describable as a series of choices with regard to three dimensions: *Temporality of Research* - a distinction is made between longitudinal and cross-sectional studies, *Methodology of Data collection* - a research project might use naturalistic language data, experimental tasks, or introspection and *the Data Processing Method* - choice is between qualitative and quantitative techniques.

This research project is cross-sectional, it is experimental and it is quantitative.

The scoring methods outlined in Chapter four enable us to quantify learners' responses. As for the experimental nature of the research we shall adopt another idea from Ellis (ibid). He says that if an 1L study is to be regarded as *scientific* it should be Hypothesis Testing or Hypothesis Generating. In some cases, a research might test and also generate hypotheses.

This research project is hypothesis testing because its aim is to assess the validity of some hypotheses which have been made in other

language acquisition studies. For instance, Brown's (1973) research demonstrated that there is a uniform sequence in the acquisition of certain structures. This finding provoked a number of researchers to conduct a series of experiments. Several claims such as the effects of L_1 on IL were made. Our hypotheses which will be based on some of the claims fall into two groups. The first group focuses on the nature of the 1L. Our interest is whether the interlanguage is affected by the linguistic background of the learner or by any non-primary language which is known to the learner. In addition we shall assess whether learners' movement over time affects IL. Apart from possible effects of L_1 and Time on IL we shall also focus on the exact nature of variations that might occur in the IL. The second group of hypotheses will compare the relative degrees of difficulty which groups of learners experience in acquiring each target structure.

Group 1

Null Hypothesis HO.1.

Learners who are drawn from different source languages will show a similar IL grammar and a similar IL continuum in acquiring each structure studied.

Alternative Hypothesis H1.1.

Learners' who are drawn from different source languages will show dissimilar IL grammar and dissimilar IL continuum in acquiring each structure studied.

Null Hypothesis HO.2

The IL grammar and IL continuum will not vary in response to learners' movement from Time 1 to Time 4.

Alternative Hypothesis H1.2

The IL grammar and IL continuum will vary in response to learners' movement from Time 1 to Time 4.

Null Hypothesis HO.3

Each IL continuum will be systematically variable, dynamic and

goal-oriented.

Alternative Hypothesis H1.3

Each IL continuum will not be systematically variable, dynamic and goal-oriented.

Group 2

Null Hypothesis HO.4

Learners who are drawn from different source languages will experience relatively equal degrees of difficulty in acquiring each structure studied.

Alternative Hypothesis H1.4

Learners who are drawn from different source languages will experience unequal degrees of difficulty in acquiring each structure studied.

Null Hypothesis HO.5

Learners who are located at different Time levels will experience relatively equal degrees of difficulty in acquiring each structure studied.

Alternative Hypothesis H1.5

Learners who are located at different Time levels will experience unequal degrees of difficulty in acquiring each structure studied.

5.0:4 Data Analysis And Presentation

The target structures under investigation are described in Chapter Three, and cross-linguistic contrasts between the IL structures and target structures might be made in the discussions.

We shall adopt a series of steps in the analysis and presentation of learners' performance results. Since each of the structures investigated was elicited in several different task types such as: multiple choice type tasks, grammaticality judgement tasks etc; we shall present the learners' performance in each of the different task types separately first. Then we shall calculate individual learner's scores and Group functor Scores from *all* the obligatory contexts combined. Since it is not the intention of this project to assess whether different task types affect learners' performance, no comparisons are made between learners' performance in different tasks. We are aware (see Chapter Two) that there is conflicting opinion about the possible effects of the elicitation tasks or instruments on orders of acquisition. Our position is that the elicitation tasks would not yield dissimilar orders if the number of obligatory contexts in different task types does not differ markedly. This is the view held by Krashen (1978) in his defence for the Bilingual Syntax Measure.

We shall make preliminary analyses and discussions in each section. Let us now turn to the results.

5.1:0 Regular Past Tense

5.1:1 Performance Within A Multiple Type Task.

There were nine tasks which required the functor -ed. This suffix marks regular past tense. One task (Appendix A_1 item 11) was a multiple type task with four choices. Learners performance therefore involved making a linguistic choice within a constrained situation. The choices which learners made are used as evidence for their interlanguage.

5.1:1

.1 IL Forms Based On Multiple Type Task

We made frequency counts of learners along the choices which they made. These choices are referred to as IL structures and the results presented in Appendix D_1. The results in the Appendix seem to suggest that learners preferred the interlanguage structures with the functor -ed although some forms with the functor are unacceptable in the TL. This means that learners were overgeneralizing the morpho-syntactic rule which is used to mark regular past tense. Such overgeneralization led to the functor -ed being used in non-obligatory contexts. Learners also used the IL structure *rose* which might be represented with the rule (Verb + past).

It is important to note that the IL structures are distributed over time and among groups based on L_1. But there are some variations.

5.1:1

.2 Inter Group Variability In Multiple Type Task

The three groups made 28 errors, of these, Group A made 11 errors (39.3%), Group B made 7 errors (25%) and Group C made 10 errors (35.7%). These frequencies of error do not appear to be significantly different quantitatively.

The errors made by each group were distributed over time so as to determine each group's accuracy level at each Time level. The total number of those subjects who used the target -ed correctly at each Test Time were calculated and converted into percentages. Group A increased their accuracy level from 20% at Time 1 to reach 60% at Time 4. They did not reach the 80% criterion for 'acquired'. The second group (Group B) was at a slightly higher accuracy level. They seem to have reached a 'plateau of learning' (Kessler 1971) because they stayed at 60% between Time 1 and 3. Change occurred at Time 4 where their score for accuracy rose to 80%. The third group is in many respects like the other two but

their accuracy level dropped from 40% at Time to 20% at Time 2. Then it rose to 75% at Time 3 and it fell yet again to 60% at Time 4. The three groups combined did not reach 80% at Time 4. Although their accuracy level did not reach the criterion point for 'acquired' we see the accuracy level increasing steadily from one time to another and the frequencies of error decreasing at each successive test time. Such results reveal that learners were gradually acquiring the target structure. We shall now consider learners' performance in the second task type.

5.1:2 Performance Within Grammaticality Judgement Tasks

A set of tasks required the learners to identify errors and to make the necessary corrections. The corrections which learners make and or their failure to make the corrections are evidence for their IL. The two tasks which were set are in Appendix A_1 - Items 21 and 23.

5.1:2 .1 IL Forms Based On Grammatically Judgement Tasks.

The results of the learners' responses to these tasks are presented in the next table. The evidence which we have shows that many learners did not identify the errors.

GROUP	INTERLANGUAGE STRUCTURES	TIME 1	TIME 2	TIME 3	TIME 4
A		9	5	2	1
B	..thief snatch,..teacher order.....	6	3	3	2
C		4	6	3	2
A		1	5	6	9
B	..thief snatched,.teacher ordered....	2	3	8	8
C		6	4	5	8
A		0	0	2	0
B	avoidance' strategy used	2	4	0	0
C		0	0	1	0

Table 5.B. IL Structures Used In Relation To Regular Past Tense (Tasks in 5.1:2)

The three groups combined made a total of 45 errors which are distributed as follows: 19 errors (42.2%) at Time 1, 14 errors (31.1%) at Time 2, 7 errors (15.2%) at Time 3 and only 5 errors (11.1%) at Time 4. This is not an even distribution of errors. All these frequencies represent learners' use of the uninflected verb forms which yield the IL rule (Verb +-Ø). The second type of IL structure from which we evolve the IL rule verb + -ed was also distributed unevenly over time. A comparison between the distribution of these two IL forms shows that there is a gradual shift away from the non-target IL form (verb + -Ø) to the target language structure (verb + -ed). Such a shifting pattern might be evidence to support the view that learners' development was in the direction of the target. This would also imply that an IL continuum

develops towards a specific goal. Further comparison on the distribution of the two forms shows that Time 3 marks the point at which the frequencies for Verb + Ø ceased to be more than those for Verb + -ed. The increasing reliance on the *avoidance* strategy between Time 1 and 2 takes a falling trend after Time 2 and it is eradicated at Time 4. This means that as learners acquire more knowledge about a target language they do not need to resort to avoidance.

Although all the IL forms are distributed among the three groups, there were some variations.

5.1:2

.2 Inter Group Variability In Grammaticality Judgement Tasks.

Group A made 17 errors, Group B made 13 errors and Group C made 15 errors. We carried out a Chi Square test and obtained $\chi^2 = 0.53$ which is smaller that the Critical $\chi^2 = 5.99$ at 0.050 level with 2 df. This suggests that the numerical differences are not large enough for us to feel that the three groups are not homogeneous. In spite of this, the groups were captured at different accuracy levels at each test time. For instance, Group B attained the 80% criterion mark at Time 3 and the other two groups reached $\geq$ 80% at Time 4. Of importance to us is the fact that each group made progress over time. But there were differences in rates of progress. Henning (1978) uses the notion *decline in error* as a predictor of students' improvement in their performance. A comparison between the decline in error shown by different groups reveals that learners made progress at different rates. The declining frequencies of error for Group A are greater than those for each of the other two groups. The group reached the highest acquisition score at Time 4. One change that started off in the wrong direction is that of Group C - the errors increased from 4 to 6 between Time 1 and 2.

The learners' performance results in the next task type are presented below.

5.1:3 Performance Within Transformation Type Tasks.

Three transformation type tasks were set. Learners were provided with sufficient contextual clues to help them process the tasks. For example, in the first of these tasks (Appendix A_2 item 13) the auxiliary verb *be* is in the past tense and this means that the main verb must be in the past tense form. The second task (Appendix A_2 item 15) has an adverbial of time - last year - which suggests that the main verb should be in its past tense form. As for the third task (Appendix A_3 item 21) learners were instructed that they were to write out the task in its past tense form.

The three tasks are similar in that learners simply add the functor - ed to the appropriate verbs thus transforming them from their non-past tense forms to regular past tense forms.

5.1:3 .1 IL Structures Based On Transformation Type Tasks.

The frequencies of learners along the types of IL structures which they used are presented in Appendix D_2. The interlanguage structures which have the functor -ed are not to be regarded as error because they are the target language norm. The scores show that the three groups combined made 28 errors. An analysis of these errors reveals that 5 errors (17.9%) might be represented with the IL rule *Verb + -ing*, 9 errors (32.1%) have the IL rule *Verb + -s* and 14 errors (50%) have the IL rule *Verb + -Ø*. These scores seem to suggest that learners have a specific order of preference. The specific orders of preference and strategies used by learners will be discussed in the next chapter.

Besides the IL structures which we have in Appendix D_2 we noted the following: ***They visitors***, ***They saw*** and ***They had visited*** which were used instead of *They visited*. The first two IL structures were observed at Time 1 and the last one at Time 4. Each had only one frequency. *She was hungry* was used instead of *She was injured*. It was observed once

at Time 1. In addition, we observed one case of *avoidance* at Time 3 in which Task 1 was not attempted.

5.1:3

.2 Inter Group Variability In Transformation Type Tasks.

Although the learners from the three different linguistic backgrounds used similar interlanguage forms, there were variations in how frequently each group used the forms. Group A made 9 errors (32.14%), Group B made 11 errors (39.3%) and Group C made 8 errors (28.6%). The results of a Chi Square test which we carried out showed that the differences in these frequencies of error are not large enough for us to conclude that one group was better than the others.

The three groups showed variability in two other ways. Firstly by the proficiency level attained by each group at each test time. Secondly, by the rate of progress between one test time and another. In order to capture these two aspects of variability, we calculated the frequency in the use of *the target* at each test time and converted the frequency into percentage score. These are presented in the figure below.

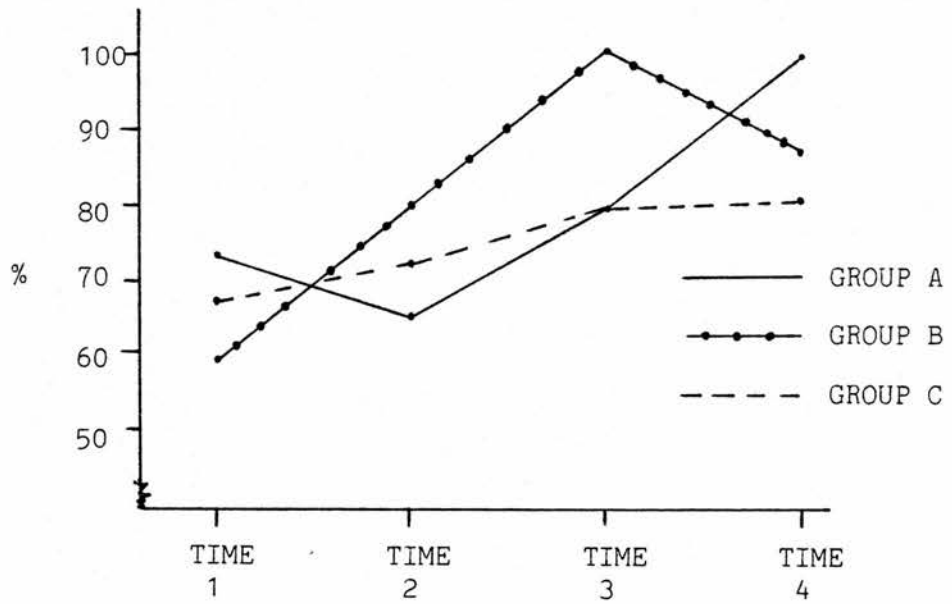


Figure 5.0. Relative Degree Of Correctness In Transformation Type Tasks.

The different proficiency levels for each group are reflected by the *location* of the curves at the four points in time and the rates of progress are reflected by the *slopes* of the curves.

We cannot make strong claims because the differences shown in the figure are based on only one task type. We also looked into the patterns in the use of the interlanguage structures. In general the distribution which we have in Appendix D_2 shows that there is a strong tendency to use the IL forms which contain the functor -ed. This happens to be the TL norm. Learners at Time 3 and 4 might be regarded 'acquired' because their accuracy level reaches $\geq$ 80%. The frequencies for the non-target IL forms which might be represented with the rule verb + -ing are used only at Time 1 and 2 but those that might be represented with Verb + -s show a lot of variability over time. Their frequency rises between Time 1 and 2, then it falls at Time 3 and it rises yet again at Time 4. The IL structures without inflections i.e. Verb + -Ø increased in frequency between Time 1 and 2 and then took a decreasing trend. Our interpretation of the instances where frequencies in the use of non target IL forms increase instead of decrease is that these are evidence of backsliding.

Let us now present the learners' performance results in the fourth task type.

5.1:4 Performance Within Translation Type Tasks.

The two translation type tasks (Appendix A_4 items 1 and 5) which we set had a total of three obligatory contexts for the functor which is used to mark regular past tense. Learners were provided with two pictures so as to help them get the communicative meaning. The target translations are:

The woman turned her head and laughed (item 1).

Many people watched the competitions (item 5).

5.1:4

.1 IL Structures Based On Translation Type Tasks

Learners used six morpho-syntactically different IL forms in their attempt to communicate meaning in the regular past tense. The structures in Appendix D_3 are used for the purpose of evolving the IL rules which we have in the table below.

IL RULE	TIME 1	TIME 2	TIME 3	TIME 4
Verb + -Ø	18	14	7	4
Verb + -s	0	4	0	0
Verb + -ing	2	0	0	1
Aux + Verb + -Ø	2	0	5	0
(Aux + past) + Verb + ing	3	3	2	3
Verb + -ed	20	24	28	37

Table 5.C. IL Forms Used In Relation To Regular Past Tense. Groups combined.

The distribution of the IL rules in this table shows that movement form one test time to the next reflects the process in which various IL rules are tested, revised and dropped if they are found to be inappropriate relative to the target language rule Verb + -ed. To illustrate this we have the IL rule Verb + -Ø which takes a gentle decreasing trend from Time 1 to Time 4. The four frequencies of Verb + -s at Time 2 might be regarded as evidence of backsliding. Other instances of backsliding are reflected by *verb + -ing* and *Aux + Verb + Ø* which are eradicated at Time 2 but reappear at Time 4 and 3 respectively. The IL forms from which we derive the IL rule *Aux + past + Verb + ing* are erroneous because learners introduced the *auxiliary* which is not needed. The target tense is however marked on the auxiliary.

The IL forms might be divided into two: target and non-target. The target language rule was used 20 times (44%) at Time 1, 24 times (53%) at Time 2, 28 times (67%) at Time 3 and 37 times (82%) at Time 4. These results seem to suggest that learners were making progress toward the target tense at each successive test time. Change in learners' knowledge about the target language norm is also reflected by the decreasing reliance on non-target forms to approximate the functor -ed. Their pattern of decrease was 25 at Time 1, 21 at Time 2, 14 at time 3 and 8 at Time 4. The results which we have presented evidence that there was inter group variability.

5.1:4

.2 Inter Group Variability In Translation Type Tasks

The three groups combined made 68 errors which were distributed as follows: Group A made 23 errors (33.8%), Group B made 21 errors (30.9%) and Group C made 24 errors (35.3%). The differences between these scores are not large enough for us to conclude that the groups were experiencing unequal degrees of difficulty in processing the translation type tasks. But the groups were at slightly different levels of proficiency. Let us focus on the relative use of the target -ed. We converted the scores in Appendix D_3 into percentages and found out that the score for Group A rose from 27% at Time 1 to 53%, 67% and 100% at the successive test times. But the score for Group B stayed at 60% at Time 1 and 2, and rose to but stayed at 67% at Time 3 and 4. Group C stayed at 47% at Time 1 and 2; then their proficiency level rose to 67% and 80% at Time 3 and 4 respectively.

These scores seem to suggest that Group A made the most rapid progress. Group B and C made no progress at all between Time 1 and 2.

The inter group variability might as well be seen in relation to the differences that exist between groups in their use of specific IL forms. The data in Appendix D_3 show that all the IL forms except *woman turns and laughs* were used by learners drawn from the three different source

languages. The differences that occur have to do with how frequently each interlanguage structure was used by different groups.

We turn now to learners' performance results in the fifth task type.

5.1:5 Performance Within Pictorial Description Type Tasks.

Since it was our intention to have each structure under investigation observed in many and varied task types, we set two pictorial description type tasks - Appendix A_4 Picture 3 and 4. The learners were asked to describe what was happening in each picture in about ten lines of English.

We hoped that each learner would create obligatory contexts for the functors which we are interested in because as Porter (1977:51) says, 'when learners communicate in a target language, they will create obligatory contexts for certain functors and oftentimes they might fail to supply the required functors; or supply misformed ones'.

5.1:5 .1 IL Structures Based On Pictorial Description Type Tasks.

The three groups combined made 43 errors: 37 of these (86%) were of the form: "...the man listen..., the man enter.../ he talk..." It must be pointed out here that we made plausible interpretations of the learners' intended message and arrived at the conclusion that these structures ought to have been in their past tense forms. The structures might be represented with the IL rule *Verb + -Ø* and this rule is therefore used to approximate Verb + -ed. Their distribution over time was as follows: 10 at each of Time 1 and 2; and 9 and 8 at the subsequent test times respectively.

The other six errors (14%) - 5 at Time 1 and 1 at Time 2 - were of the form: "...is looking..,...is gazing...". We analysed these structures

in relation to the linguistic contexts they were in and arrived at the conclusion that they ought to have been in the form "...looked...gazed.." respectively. They are however to be represented with the IL rule *Aux + Ø + Verb + -ing* in which case the target tense is not marked at all.

5.1:5

.2 Inter Group Variability In Pictorial Description Type Tasks.

The three groups differed in several ways. First, we noted that out of the 43 errors; Group A made 16 errors (37.2%), Group B made 14 errors (32.6%), and Group C made 13 errors (30.2%). Since these numerical differences are small we cannot conclude that learners from the three different native languages experienced unequal degrees of difficulty in performing the pictorial description type tasks.

Secondly, there were minor variations in how frequently each group used the interlanguage structures which we have noted above. For example, Group A used the IL rule Verb + -Ø 13 times (35.1%), and each of Group B and C used it 12 times (32.4%). The interlanguage rule Aux + Ø + Verb + -ing was used 3 times (50%) by Group A, 2 times (33.3%) by group B and only once (16.7%) by Group C.

Thirdly, the three groups differed in the number of obligatory contexts created at each Test time. They obtained different raw scores and were at slightly different proficiency levels. The Group Score Method was used and the results showed that the three groups were below the 80% criterion point between Time 1 and 2 but their scores rose to $\geq$ 80% at Time 3 and 4.

We now proceed to present the learners' overall performance scores.

5.1:6 Overall Functor Scores In Regular Past Tense.

We have presented learners' performance results in different task types and focussed on the interlanguage forms which were used in relation to regular past tense. All the obligatory contexts in the different task types were combined for the purpose of calculating overall functor scores. The ternary scoring system was used to calculate individual student's overall functor scores in Appendix C_1. Then the Group Score Method was applied so as to obtain a single functor score for the following groups: all the subjects combined, all the learners of different linguistic backgrounds combined, and learners at each of the four test times. We shall refer these as *the eight groups* - Appendix C_2(ii). The Group Functor Scores in regular past tense are presented in the figure below.

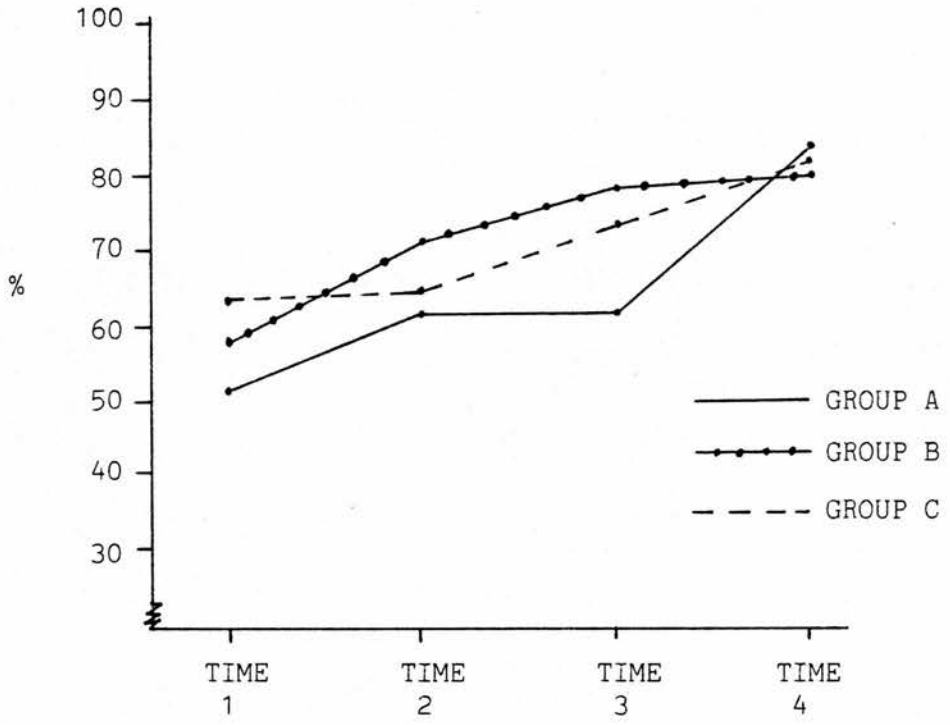


Figure 5.1. Overall Group Functor Scores [All tasks Combined]

The general impression one gets from the graph is that the inter group variations are small. The parallellism and closeness in the acquisitional curves portray a picture of three groups who are fairly

homogeneous and who must have been experiencing similar degrees of difficulty in acquiring regular past tense.

There are a few variations which we might note. Group B made the most rapid progress between Time 1 and 2. They gained 13 points and their acquisitional curve almost touched the 80% mark. Group C did not make any progress between Time 1 and 2. Although Group A is portrayed as the weakest between Time 1 and 3; they made the most rapid progress after Time 3 and they reached ≥ 80% at Time 4. The graph also shows that the greatest differences in proficiency levels among the three groups was that between Group A and Group B. All the three groups reached ≥ 80% at Time 4.

We shall now present learners' performance results in the tasks that elicited the second functor.

5.2:0 Irregular Past Tense

The structural form of irregular past tense is discussed in Chapter Three. Like regular past tense, this tense was tested in five different task types which contained fifteen structurally pre-determined obligatory contexts. The procedure used in the presentation of learners' performance results in relation to regular past tense is adopted here.

5.2:1 Performance Within Multiple Choice Type Tasks.

Six tasks in the form of multiple choice items (Appendix A, items 1, 2, 9, 13, 17 and 19) each with an obligatory context for irregular past tense were set to assess learners' acquisition of the structure. We shall present learners' performance results in Task 1 separately because the verb here was *copula*. The other five tasks are treated as similar because the targets are lexical verbs.

5.2:1

.1 IL Forms Based On Multiple Choice Type Tasks.

The groups were arranged along the dimension of Time and their variable performance results are presented in the table below:

INTERLANGUAGE STRUCTURE	TIME 1	TIME 2	TIME 3	TIME 4
..you was away..	5	5	1	1
..you will been..	2	2	3	0
..you are away..	1	0	0	1
..you were away..	7	8	10	11

Table 5.D. IL forms based on Task 1 only [L_1 disregarded]

On the basis of the evidence which we have in the table we might reach a few tentative conclusions. The decline in the frequency of the non-target forms over time and the increase in the frequency of the target language norm mirror the learners' improvement in performance which in turn might be interpreted to mean a systematic acquisition of the target. Learners made a total of 21 errors which might be divided into two groups: 12 errors (57%) are in the form *Verb + target tense* but a non-target verb form is used; the second set of 9 errors (43%) do not have the target tense marked. Consequently non-target verb forms are also used.

The IL forms used by learners in the other five multiple choice type tasks are presented in Appendix E_1 and briefly discussed below. The 119 errors which learners made are unevenly distributed as follows:

TIME	1	2	3	4
ERROR	45 (37.8%)	35 (27.4%)	24 (20.2%)	15 (12.6%)

This uneven distribution of errors might be evidence to support the hypothesis that learners who are located at different test times experienced unequal degrees of relative difficulty in processing the five multiple choice type tasks. On the other hand the decreasing frequencies of error might be evidence to support the hypothesis that development over time is a systematic process in which non-target IL forms are eradicated and the target is gradually acquired.

We then set out to establish the exact nature of the interlanguage rules which learners used to approximate irregular past tense. All the IL forms which are structurally similar were grouped together and the results are presented below.

INTERLANGUAGE RULES	TIME 1	TIME 2	TIME 3	TIME 4
(Aux + Non Past) + Verb + ing	17	10	5	3
Verb + -Ø	9	7	4	2
Verb + -ed	5	5	4	3
(Verb + past) + -ed	6	3	1	3
Aux + Ø + (Verb + past)*	8	10	10	4
(Verb + past)**	27	38	45	60

Table 5.E IL Rules Based on Data In Appendix E₁
Groups Combined
*** Non Target Rule**
**** Target Rule**

A preliminary analysis of the IL forms which make up the 119 errors reveals that they might be divided into three: (i) those in which learners have marked the target tense but non-target verb forms are

used (ii) those in which non-target tense forms are used and (iii) those in which no tense at all is marked. We represent the three as:

$$\begin{bmatrix} + \text{ Target Tense} \\ - \text{ Target Verb form} \end{bmatrix} \text{ and } \begin{bmatrix} + \text{ Non Target Tense} \\ -\text{Target Tense} \end{bmatrix} \text{ and } \begin{bmatrix} \emptyset \text{ Tense} \end{bmatrix}$$

A re-analysis of the data along these three categories shows that learners have three erroneous hypotheses. The first, which corresponds to the first error type, shows that learners have not acquired the necessary transformational rules which change verbs to their target forms in the irregular past tense. But the use of -ed is evidence of overgeneralization. The second category reveals that learners might form hypotheses which are nowhere near the target form. The third category shows that learners might use unmarked verb forms.

The frequencies of each of these error types decrease over time. This suggests that hypotheses are tested and dropped whenever they are found to be non-target. We shall discuss the variable changes in the learners' hypotheses in the next chapter.

5.2:1

.2 Inter Group Variability In Multiple Choice Type Tasks.

The scores which are in Appendix E$_1$ show that the errors are evenly distributed among the three groups: Group A made 43 errors (36.1%), Group B made 37 errors (31.1%) and Group C made 39 errors (32.8%). Such an even distribution might be evidence to support the hypothesis that there was no significant L$_1$ effect in the acquisition of irregular past tense. We also looked into the distribution of the IL forms along the dimension of source language. On the basis of the frequency of each IL form among the three groups we carried out Chi Square tests so as to assess whether there were significant quantitative differences. The results of such analyses are presented in the next table.

INTERLANGUAGE FORMS	GROUP A	GROUP B	GROUP C	X^2
Aux + Non-Past + Verb + ing	14	8	13	1.75
Verb + -Ø	6	8	8	0.43
Verb + -ed	8	5	4	1.5
(Verb + Past) + -ed	5	3	5	0.75
Aux + Ø + (Verb + Past)	10	13	9	0.82
(Verb + Past)	57	63	50	1.49

Table 5.f. Relative Use Of IL Forms By Group (Time Held Constant)
$p < 0.05$

The results in this table show that learners from the different source languages used similar IL forms to approximate irregular past tense. The results of the Chi Square test confirm that the differences in how frequently each group used specific IL forms are not large enough for us to conclude that the source language of the learner determined the type of IL forms he would choose to use.

In the next section we present learners' performance results in the second task type.

5.2:2 Performance Within Grammaticality Judgement Tasks.

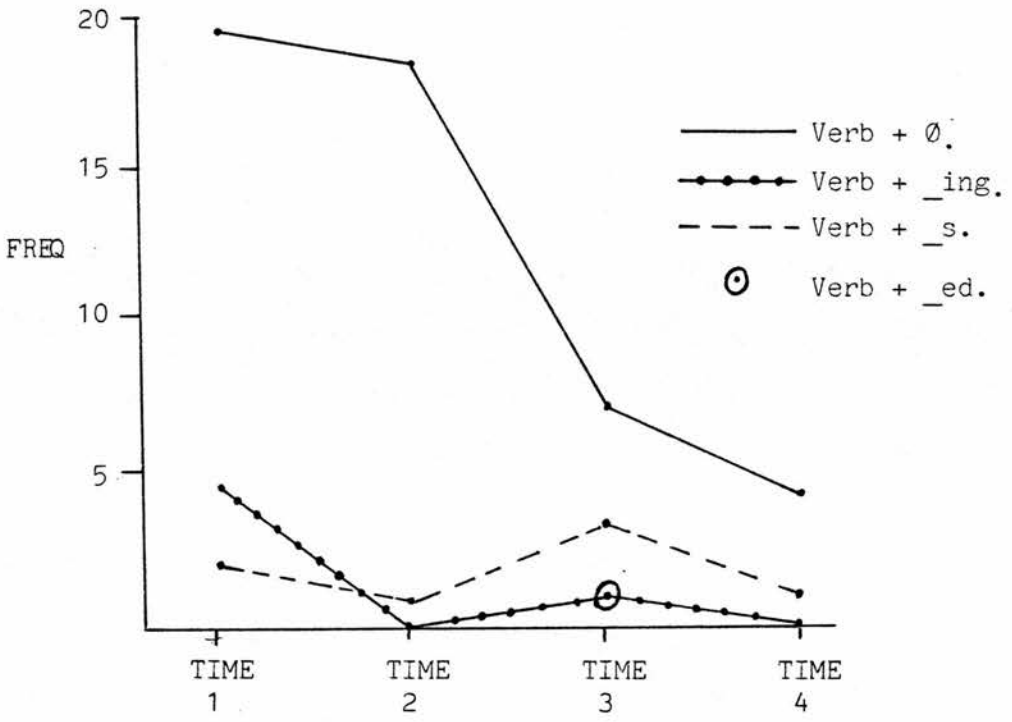
There were three obligatory occasions for irregular past tense within the two grammaticality judgement type tasks - Appendix A_1, item 21 and Appendix A_2 item 8.

It must be pointed out here that these types of tasks can be corrected in many different ways and in fact some learners used non-past tense forms correctly by changing the adverbials of time. For instance,item 21 was corrected as: *"The thief is snatching her bag and is running with it now"*. We had intended to have: *"The thief snatched her bag and ran with it yesterday"*. In assessing learners we had to pay attention to the adverbials used so as to interpret whether learners meant to communicate meaning in the past or non-past.

5.5:2

.1 IL Forms Based On Grammaticality Judgement Type Tasks

A total of 61 errors were made by the three groups combined. The types of IL forms used and their distribution are presented in Appendix E_2. The interlanguages structures which are in the Appendix were analysed so as to evolve a system of non-target rules and a target rule. The non-target IL rules are: Verb + Ø = 48, Verb + -s = 7, Verb + ing = 5 and Verb + ed = 1. These frequencies suggest that we can order the IL rules in form of an implicational continuum of preference. It is the orders of preference which will be used as evidence for the types of hypotheses which learners form and also the direction of change in the hypotheses. The form of the IL rules reflects the types of processes and strategies which learners use in acquiring a specific target. In order to have a picture of how each IL rule was used over time: we combined the three groups and calculated the frequency of each IL rule at different points in time. The results are displayed in the graph overleaf.



Figurure 5.2 Relative Use Of IL Rules Based On Appendix E_2
[Groups Combined] (Target Excluded)

If progress within the interlanguage hypothesis is seen as a gradual eradication of the non-target IL rules or forms, then we might claim that this graph has evidence to support the view because the contours for the three IL rules decline between Time 1 and 4. In particular the slope of the curve representing the IL rule Verb + -Ø shows the greatest variability between Time 2 and 3. It would appear that if these non-target variants are systematically "given up" (Dickerson 1975:8) or eradicated, those with the highest frequencies would be the last to be given up. In our case the IL rule Verb + -Ø might be the last to be eradicated. This implies that it might persist even after learners have acquired the target language forms for irregular past tense.

The graph also shows that the eradication of non-target forms is not achieved through a smooth progression.

For instance, the IL rule Verb + -ing is eradicated at Time 2 but it re-emerges at Time 3 and subsequently being eradicated at Time 4. Such

variability might be evidence for 'backsliding' which Selinker (1972) defines as the regular re-appearance or re-emergence in IL productive performance of linguistic structures which were thought to be eradicated. The one frequency of the IL rule Verb + -ed at Time 3 might be taken as a *mistake* rather than an error (Corder's distinction).

It would appear that the gradual eradication of these IL forms correlates with systematic incorporation of the target language norm in learners' cognitive structure. This is revealed by the increasing frequencies of the target tense.

5.2:2

.2 Inter Group Variability In Grammaticality Judgement Type Tasks.

One of the key hypothesis in this research project is that learners from the three unrelated linguistic backgrounds would be found using similar interlanguage forms in their acquisition of each target structure. This hypothesis is based on the popular view in IL studies that it is the target language rather than the Source language which guides the route of acquisition. Furthermore it is often claimed that learners from different source languages experience relatively similar degrees of difficulty in processing a common target language.

A re-examination of the data in Appendix E_2 shows that Group A made 18 errors (30%), Group B made 22 errors (36.7%) and Group C made 20 errors (33.3%). These percentages are calculated out of 60. We have excluded the one frequency of *Verb + -ed* because we regard it as a mistake. Although the frequencies of error made by the three different groups do not show great differences, Group A who made comparatively fewer errors might be regarded as slightly better than the other two groups. We carried out a Chi Square test and the results we obtained confirmed that the differences are not large enough for us to claim that one group is better than the others.

Inter group variability might also be viewed in terms of how frequently each group used specific interlanguage rules. All the IL forms except two are distributed among the three groups. The two exceptions are Verb + -ed which we have regarded as a mistake; and Verb + -ing which is not observed among Group C. Our explanation of this is that Group C has 'given up' or eradicated the interlanguage rule. Consequently they were captured at a time when their cognitive syllabus had only Verb + -Ø and Verb + -s in relation to the target forms for irregular past tense. This is only in relation to this task type. The IL forms are also unevenly distributed and this shows that some groups might be found over-using specific IL forms. For example, the IL rule Verb + -Ø has 48 frequencies which are distributed as follows: Group A = 13, Group B = 17 and Group C = 18. Although the differences are not large we can see that both Group B and C tended to overuse the IL rule verb + -Ø. On the other hand the IL rule Verb + -ing was used 5 times with Group A contributing 60% and Group B contributing 40%. There is a fairly even distribution in the relative use of the IL rule Verb + -s because Group A and C have 2 frequencies each (28.6%) and Group B has 3 frequencies (42.9%).

With regard to the distribution of errors along the dimension of Time, we have the following results: learners at Time 1 made 25 errors (41.7%), those at Time 2, 3, and 4 made 19 errors (31.7%), 11 errors (18.3%) and 5 errors (8.3%) respectively. We carried out a Chi Square test and our results are: $\chi^2 = 15.47$ which is much greater than the critical $\chi^2 = 7.8$, df = 3, $p < 0.050$. This seems to suggest that learners located at different test times experienced unequal degrees of relative difficulty in processing the three grammaticality judgement type tasks which tested their acquisition of irregular past tense.

5.2:3 Performance Within Transformation Type Tasks

We administered a set of five transformation type tasks which required learners to transform expressions from their non-past tense

forms to their corresponding irregular past tense forms. The five tasks are Appendix A_2 item 11, Appendix A_3 items 22, 23, 24 and 25.

A total of 112 errors were made by the three groups combined. There were variations in the number of errors provoked by the five different tasks. Task 2 provoked 38 errors (33.9%) and the relatively easier ones such as Task 3 provoked only seven errors (6.3%). It is difficult to explain why Task 2 proved to be more difficult than task 3. The two have the verbs *pay* and *buy* respectively. These two verbs are similar in that they undergo an internal morphological change in order to accommodate irregular past tense. This is unlike the verbs *cut* and *read* which do not change at all.

5.2:3

.1 IL Forms Based On Transformation Type Tasks.

The interlanguage structures used by learners are presented in Appendix E_3. A structural analysis of the structures yielded the IL rules which we have below.

INTERLANGUAGE RULE	TIME 1	TIME 2	TIME 3	TIME 4
Verb + -ed	23	16	14	6
Verb + -Ø	11	7	3	2
Verb + -s	3	4	2	0
(Aux + past) + Verb + ing	0	1	0	4
Verb + ing	0	0	2	2
(Aux + past) + (verb + past)	1	1	4	6

Table 5.G IL Rules Used In Relation to (Verb + Past) Groups Combined.

The data in this table shows that learners used a system of IL rules to approximate the target language rule *(Verb + Past)*. In general the scores for each IL rule seem to decrease over time. There are a few exceptions such as the increasing frequencies for (Aux + past) +verb + ing, Verb + ing and (Aux + past) + (Verb + past). One explanation for the increasing frequencies of error in some of these IL structures is that learners were in fact using the target language rule for irregular past tense. For instance, the number of errors in Task 4 increased between Time 3 and 4. A re-examination of learners' responses revealed that the IL structure *used to cut* which was regarded as non target was used twice at Time 3 and thrice at Time 4. This is reflected in the increasing scores for (Aux + past) + (Verb + past) in the table above.

It is important to point out here that this interlanguage structure is not incorrect nor does it make the sentence in which it occurred ungrammatical. We regarded it as non-target because native speakers of English would not have found it necessary to introduce the auxiliary structure *used* in the task. A re-analysis of the IL rules which are in the table shows that we might divide them into two groups. First, all the IL rules which contain the target tense but are erroneous relative to the target (Verb + past); and the second - all the IL rules which do not contain the target tense at all. The first group is represented by three IL rules which are implicationally sequenced as: [Verb + -ed] > [(Aux + past)] + (Verb + past)] > [(Aux + past) + Verb -ing]. The second group is also represented by three IL rules in the following order: [Verb + -Ø] > [Verb + -s] > [Verb + -ing].

These sequences are evidence to support the view that learners might develop through a succession of hypothetical rules which are revised as learners get more input. Faerch et al (1984) claim that one of the sources of input is the classroom. This claim applies in our research project because the learners were acquiring the target language mainly in tutored environments. The interlanguage rule Verb + -ed seems to have attracted a large number of subjects. This might be explained in terms of the strategy of syntactic overgeneralization which Taylor

(1975:74) defines as a process in which a language learner uses a syntactic rule of the target language inappropriately'.

Although we have noted that the frequencies of some IL rules tended to increase rather than decrease over time; the total number of errors observed at the four test times decreases gradually from 38 at Time 1 to 20 at Time 4. Let us focus on such variations in the next section.

5.2:3

.2 Inter Group Variability InTransformation Type Tasks.

The subjects are grouped along the dimension of Time and the Source language.

Learners at Time 1 made 38 errors (33.9%), those at Time 2 made 29 errors (25.9%), those at Time 3 and 4 made 25 errors (25%) and 20 errors (17.9%) respectively. This distribution of errors seems to suggest that there is a relationship between the quantity of error and learners' movement over time. But learners' movement over time might also be viewed as involving varying amounts of exposure to the TL such that those at Time 4 have had greater amount of exposure to the TL than those at any of the preceding test times.

We re-analysed learners' performance results in terms of *types of error* and the quantity of each type of error. All the interlanguage structures which contain the target tense i.e. past tense, but the suffix -ed used will represent *type one error* and all those interlanguage forms without the past tense marked will represent *type two error*. The third error type represents all the IL forms in which the target tense is used but regarded non-target because the auxiliary is introduced. The results of such an analysis is presented graphically below.

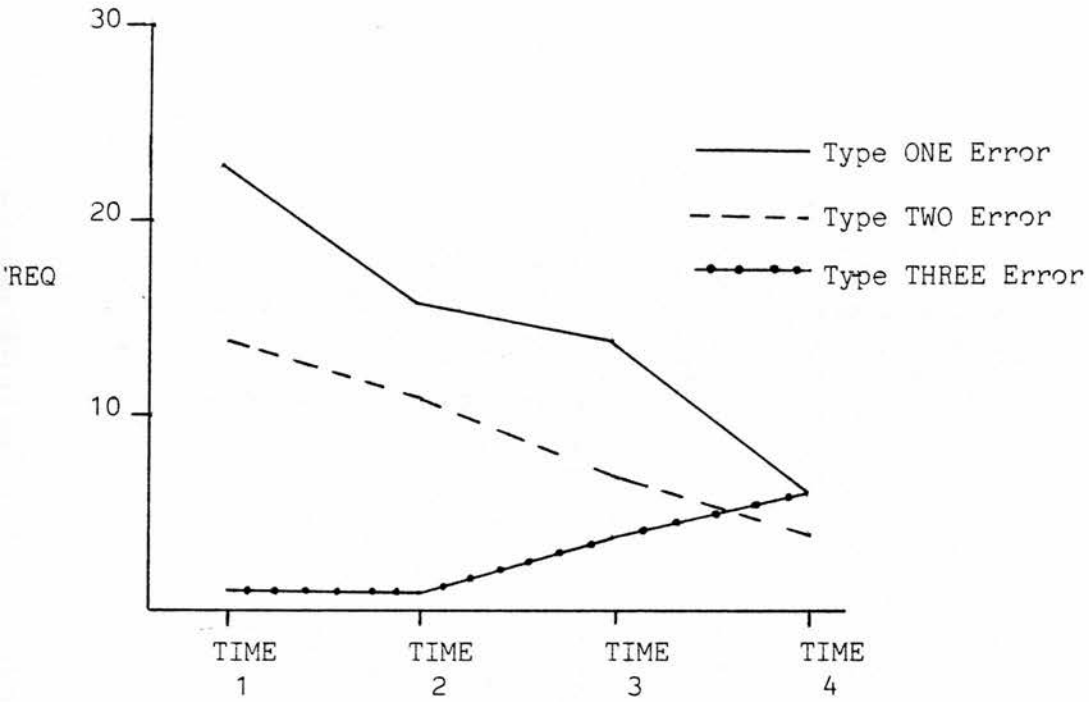


Figure 5.3 Relative Frequencies Of The Three Types of Error Based On Tasks In Section 5.2:3 Groups Combined

The general impression one gets from the graph is that learners were systematically eradicating two types of error but increasing their relative use of forms leading to type three errors. Since the latter had the target tense marked correctly, we might use this as evidence to support the hypothesis that learners made progress in the direction of the target language norm.

We re-examined the interlanguage forms in Appendix E$_3$ for the purpose of assessing performance variations between groups arranged according to their Source language. All the interlanguage forms except two are distributed among the three groups. The two exceptions are Verb + -s and Verb + ing which were not used by Group B and Group A respectively. These two exceptions are not sufficient evidence for us to reject the hypothesis that learners use universal cognitive hypothesis to process the linguistic data of a target language.

A number of Chi Square tests were carried out so as to find out whether there were significant intergroup differences with regard to how frequently individual groups used the six different types of IL forms which are in Appendix E_3. The results showed that the variations were not large enough for us to conclude that the IL forms used by learners were dependent on the Source language of the learners.

We shall now consider learners' performance results in a different task type.

5.2:4 Performance Within Translation Type Task

In order to help learners decode the communicative message in the task, we provided them with Picture One - Appendix A_4. Then the learners were asked to translate one task - Appendix A_4 item 3 - which had one obligatory context for irregular past tense. The target translation is: *That chair is not good, it is not big and is bent.*

5.2:4 .1 IL Forms Based On Translation Type Task.

The three groups combined made 42 errors. Ten errors (23.8%) were made at Time 1, 12 errors (28.6%) at each of Time 2 and 3 and eight errors (19.0%) at Time 4. The target language rule in the translation type task is:

(it) + (be + -Ø) + (verb + past)

The interlanguage structures used by learners are presented in Appendix E_4. We focussed on the types of tense marking which learners seem to have been using. The results of such an analysis are presented in the next table:

Type of Tense Marking	TIME 1	TIME 2	TIME 3	TIME 4
Zero tense marking	6	10	9	2
-ing tense marking	4	1	2	5
-ed tense marking	0	1	0	1
-s tense marking	0	0	1	0
target tense marking	5	3	2	6

Table 5.H Types of Tense Marking In Relation To (Verb + past) [NL Disregard].

The data in the table reveals that learners made five different types of hypotheses in relation to irregular past tense. Four of these hypotheses are erroneous and one is not. Among the erroneous hypotheses is that the uninflected verb forms *verb + -Ø* might be the best approximination of the target (Verb + past). The second hypothesis is that the suffix -ing may be used to approximate the *state* of a chair which is *bent*. One explanation for this hypothesis is that learners interpreted the *state* as dynamic rather than static. This led to erroneous IL forms. A similar explanation might be suggested for the erroneous IL form Verb + -s in which the state of the chair is interpreted as [+ dynamic] i.e. the state of the chair repeats itself. Thus the chair is conceived as though it *bends*.

Besides these IL forms we noted a few cases of message abandonment such as: "It is_____". There are two plausible explanations for such an *avoidance* behaviour. First, it might be the case that learners were avoiding the target verb *bend* because they do not have such a lexical structure in their cognitive syllabus or

secondly, they might have been avoiding the verb *bend* because they have not acquired its past tense form.

We shall now consider learners' performance results in a different task type.

5.2:5 Performance Within Pictorial Description Type Tasks.

We hoped that each subject would create some obligatory contexts for irregular past tense within the pictorial description type tasks Appendix A_4 Picture 3 and 4. The compositions were read with the object of finding out the IL forms used to approximate the irregular past tense. We also scored the learners using the ternary system.

5.2:5 .1 IL Forms Based On Pictorial Description Type Tasks

Learners' pictorial descriptions showed remarkable variability with regard to tenses. Some learners would occasionally use two tense types within one paragraph. We made plausible interpretations of the intended meaning after which we listed down the interlanguage forms which we have in Appendix E_5.

An analysis of the IL structures reveals that learners made three hypotheses which happen to be erroneous relative to irregular past tense. The uninflected verb forms (Verb + -Ø) are used 15 times (51.7%) and the suffixes -ing and -s are used seven times (24.1%) each.

5.2:5

.2 Inter Group Variability In Pictorial Description Type Tasks.

The learners were distributed by performance levels as in the table below.

PERFORMANCE LEVEL	TIME 1	TIME 2	TIME 3	TIME 4
20 - 39	2	4	0	0
40 - 59	10	2	2	1
60 - 79	3	9	6	3
80 - 100	0	0	6	11

Table 5.1 Distribution Of Learners By Performance Levels
Performance Scores Are Functor Scores
[NL Disregarded]

The performance level 0 - 19 is left out because there were no learners in this performance level. Learners are spread out across the other four performance levels. The distribution of learners shows that there is a relationship between a learner's movement over time and the scores. The inter-relationship between Time and Scores forms distinct patterns. For example, there are no learners at Time 1 and 2 who have reached the 80% criterion score for acquired. Secondly, there are no learners at Time 3 and 4 who were in the 20 - 39 performance level. Thirdly the 80% score is reached first by learners at Time 3.

The three groups made 29 errors: Group A and B made 10 errors each (34.5%) and Group C made 9 errors (31.0%). This seems to be an even distribution of errors among learners drawn from three different source languages. But the errors are unevenly distributed over time. Learners at Time 1 made 13 errors (44.8%), those at Time 2 made 12 errors (41.4%) and those at each of Time 3 and 4 made 2 errors (6.9%).

5.2:6 Overall Functor Scores In Irregular Past Tense

We have considered the learners' performance results with regard to irregular past tense in five different task types. All the obligatory contexts in these task types were combined and functor scores for individual learners calculated. The scores are presented in Appendix C_1. Then we computed Group Functor scores which are presented in Appendix C_2. The learners' progress in the acquisition of irregular past tense is graphically displayed in the diagram below.

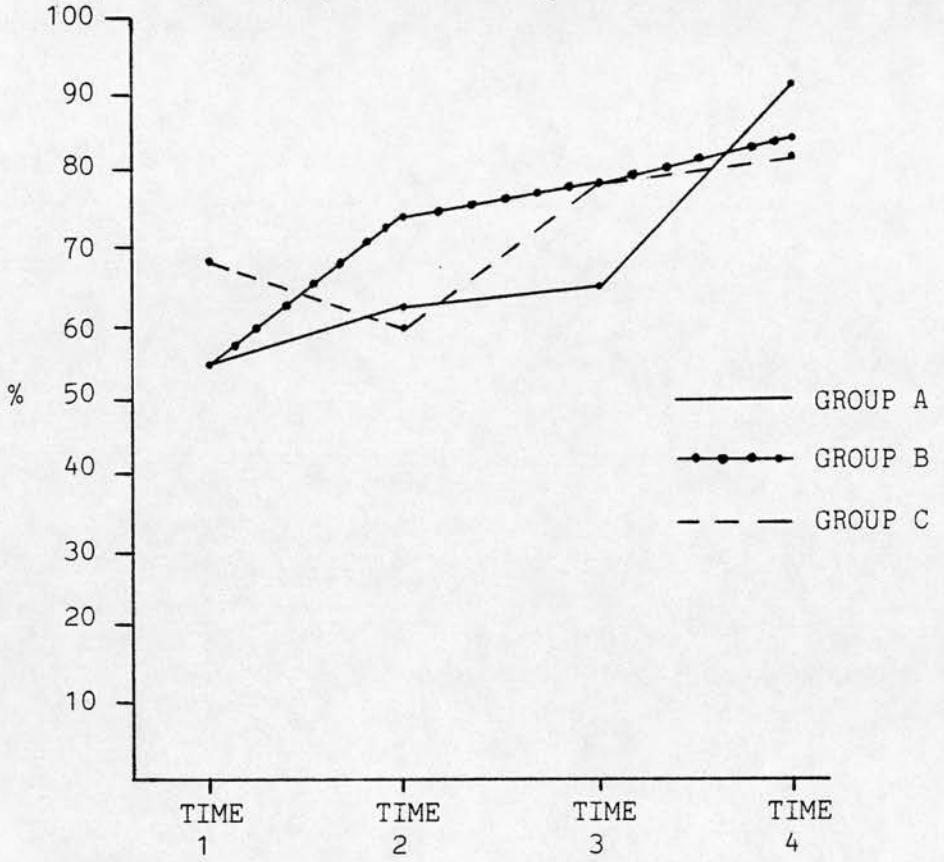


Figure 5.4 Overall Group Functor Scores In Irregular Past Tense

The first impression one gets from the layering of the three contours of acquisition is that the groups are fairly homogeneous. Their sequence of development in the acquisition of irregular past tense is fairly consistent and in many ways similar. One deviation from the general pattern of development is displayed by the contour for Group C. Their development was in the wrong direction between Time 1 and 2. The three groups reached the 80% criterion mark at Time 4. But there are

variations that are reflected in the ultimate degree of achievement reached by individual groups.

The learners' performance results in the third tense type are presented in the section which follows.

5.3:0 Non-Past Tense

Non past tense was tested in a total of thirteen structurally predetermined obligatory contexts. Besides these, we assessed learners' suppliance or non suppliance of the tense in those contexts which they created within the pictorial description type tasks. The procedure used in the presentation of learners' performance results in the preceding two tense types is adopted here.

5.3:1 Performance Within Multiple Choice Type Tasks.

We created three obligatory occasions for non past tense within multiple choice type tasks. These are in Appendix A_1 item 6, 16 and 20. Our assessment of learners' responses yielded 38 errors. The form and distribution of these errors are presented in Appendix F_1.

5.3:1 .1 IL Forms Based On Multiple Choice Type Tasks.

One of the major concerns in this research project is to find out whether learners from different linguistic backgrounds use similar types of forms in relation to a specific target. In addition, we are interested in finding out whether learners experience similar degrees of difficulty in processing specific tasks. The linguistic choices made by learners were analysed so as to evolve IL rules. The results of such an analysis are in the next table.

INTERLANGUAGE RULE	GROUP A	GROUP B	GROUP C
Verb + -ed	1 (25%)	2 (50%)	1 (25%)
Verb + -Ø	2 (20%)	3 (30%)	5 (50%)
Verb + ing	2 (100%)	0 (0%)	0 (0%)
Verb + -s	4 (36.4%)	2 (18.2%)	5 (45.5%)
(Verb + past)	5 (45.5%)	3 (27.3%)	3 (27.3%)

Table 5.J. IL Rules Used In Relation To Non Past Tense

All the IL rules except one are distributed among learners drawn from the three source languages. The target forms for representing non past tense in the three tasks are Verb + -s and Verb + -Ø. An analysis of learners' responses in relation to these two targets reveals that the first target attracted three IL rules viz: Verb + -ed = 4, Verb + -ing = 2 and Verb + -Ø = 10. The second target was approximated with Verb + s = 11 and (verb + past) =11. It appears that the choice of IL rules is constrained by the form of the target being approximated. Of importance to us is the fact that the IL seems to be rule governed and this is evidence to support the hypothesis that the IL is systematic. In turn this would also be in support of the view expressed by Selinker, Swain and Dumas (1975) that by studying learners' responses; particularly the errors, we should be able to capture the three properties of interlanguages: mutual intelligibility, systematicity and backsliding. Our concern is with the second property i.e. systematicity. The notion systematicity may mean different things to different people. We have adopted the three proposals by Faerch, Haastrup and Phillipson (1984). Firstly, by systematicity in IL we mean that language learner language is rule governed. Secondly, the IL rules differ considerably

from those found in the native language of the learners. This implies that language learner language is not based on the structure of the L_1 but it is a seperate linguistic system which is based on the form of the target language. Thirdly, a language learner may use different rules to express the same content.

The interlanguage structures in Appendix F_1 might be divided into 2 groups. The first group represents all those forms which have evidence of the target tense marked but inappropriate verb forms used. The target tense was either Verb + -s or Verb + Ø. The second group includes the IL forms which do not have the target tense marked. In order to portray the development over time we calculated the frequency of each category and present the results in diagrammatic form below.

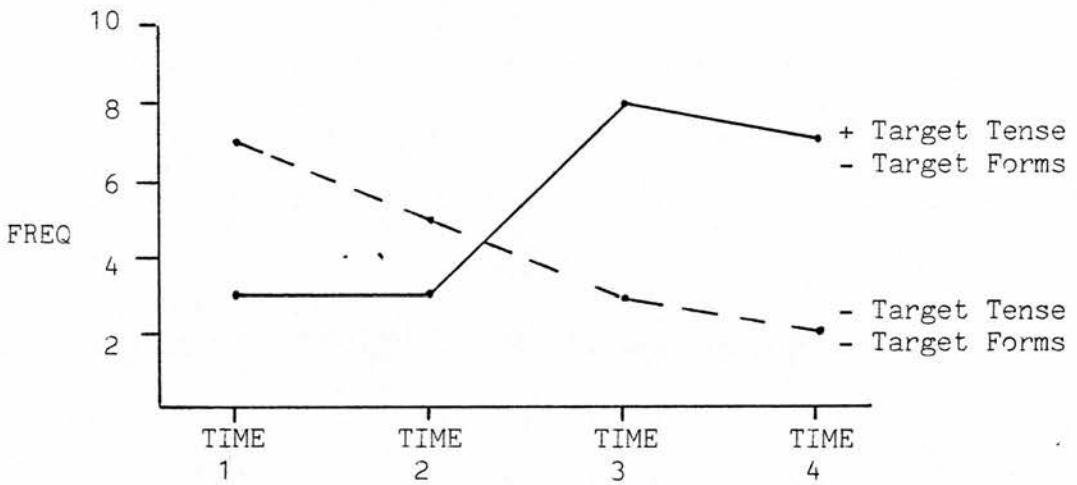


Figure 5.5 Relative Use of Two IL Tense Marking In Relation to Non Past Tense.

[NL Disregarded]

The two curves in the graph mirror two distinct acquisition patterns. One is eradicated over time and the eradication process is in form of a smooth progression but the other is acquired and the process of acquisition follows a sequence of 'peaks and valleys' (Olshtain 1979). What is important is the fact that the less target-like category is seen decreasing over time and the more target-like category is seen increasing over time.

5.3:1

.2 Inter Group Variability In Multiple Choice Type Tasks

Learners at Time 1 made 10 errors (26.3%), those at Time 2, 3 and 4 made 8 errors (21.1%), 11 errors (28.9%) and 9 errors (23.7%) respectively. This distribution of errors over time shows very little variability and we might conclude that learners located at the four test times experienced equal degrees of difficulty in processing the tasks. This is one case which appears different from those other cases which we have reported. But a re-examination of the types of errors made by these groups throws some light into the relationship between learners' movement over time and their acquisitional characteristics. The diagram above shows that learners located at the lower points on the Time scale make more errors of the type

[-Target Tense / -Tense Forms] and those at the upper

points on the Time scale make more errors of the type

[+Target Tense / -Target Forms] This is evidence that learners at the upper points on the Time scale are more native-like than those at the lower points on the temporal scale.

Learners from Group A and C made 14 errors each (36.8%) and those of Group B made 10 errors (26.3%). These differences are not large enough for us to claim that the three groups are not homogeneous. They seem to have been experiencing relatively equal degrees of difficulty in processing the tasks.

Let us now turn to learners' performance results in the second task type.

5.3:2 Performance Within Grammaticality Judgement Type Tasks.

The acquisition of non-past tense was tested in two other obligatory contexts which were in the form of pre-determined errors - Appendix A_2 items 1 and 6.

It is important to point out here that these tasks render themselves easily correctable in several ways. For example, there were a few learners who wrote: *"He did not contribute much money"*, and *"Kamau did not act well in the theatre"*. We intended the two tasks to be corrected so as to read: "He does not contribute....." and "Kamau does not act....". Although learners' responses are correct, they are not in the target form Aux + -s + Neg + verb + -Ø which we wished to elicit. The interlanguage structures used by learners are presented in Appendix F_2.

5.3:2 .1 IL Structures Based On Grammaticality Judgement Type Tasks.

The expressions which were regarded as erroneous were analysed such that all those which are structurally similar are grouped together. This yields the IL rules which were used to approximate the target Auxiliary + -s + Neg + Verb + -Ø. Since 'Neg' will be considered in a later section of this chapter; we shall regard the target as: Aux + s + Verb + -Ø. The results we obtained are presented in the table below.

INTERLANGUAGE RULES	TIME 1	TIME 2	TIME 3	TIME 4
Aux + s + verb + ed	6	7	9	2
Aux + Ø + verb + ed	7	2	0	1
(Aux + past) + verb + -ed	5	4	0	0
(Aux + past) + verb + -Ø	1	1	0	0

Table 5.K IL Rule Used To Approximate Aux + s + verb + Ø
[NL Disregarded]

The data in the table above shows that there is considerable variation between the four Time levels. Firstly, scores for three of the four IL rules decrease from Time 1 through the subsequent test times. This is not the case with the scores for the IL rule Aux + s + verb + -ed. Let us adopt Roger's suggestion (in Neckel and Nehls (eds) 1981:47) that errors be discussed from two points of view. First, *which rule is being broken* and second, *how it is being broken*. The target language rule Aux + s + Verb + -Ø has two parts, each being broken and approximated with a system of non-target IL forms. The first part, *aux + -Ø* is violated 21 times and the second part Verb + Ø is violated 43 times. The interlanguage forms *Aux + -Ø* and *(Aux + past)* are used to approximate Aux + -Ø and only Verb + -ed is used to approximate Verb + -Ø.

5.3:2

.2 Inter Group Variability In Grammaticality Judgement Type Tasks

Learners at Time 1 made 19 errors (42.2%), those at Time 2, 3 and 4 made 14 errors(31.1%), 9 errors (20%) and 3 errors (6.7%) respectively.

A Chi Square test on these frequencies yielded $\chi^2 = 12.51$. Since this is greater than the critical $\chi^2 = 7.81$, df = 3, $p < 0.05$, we might conclude that learners located at different test times did not experience relatively equal degrees of difficulty.

But Group A made 20 errors (44.4%), Group B made 12 errors (26.7%) and Group C made 13 errors (28.9%). These differences are not large enough for us to claim that the three groups did not experience relatively equal degrees of difficulty in processing the grammaticality judgement tasks. The evidence which we have seems to support the view that the Source language of a learner does not determine how easy or difficult the acquisition of a L_2 would prove to be. All the interlanguage forms except those represented with the IL rule *Aux + past + verb + Ø* are distributed among the three groups. Group B did not use *Aux + past + verb + Ø*. We cannot claim that the group would not use the IL rule at all.

5.3:3 Performance Within ' Write Suitable Forms ' Type Tasks.

Two tasks were structured in such a way that in writing out suitable forms of the verbs in brackets learners would use non-past tense. The two tasks are Appendix A_2 items 9 and 17. The errors made by learners are presented in Appendix F_3.

5.3:3 .1 IL forms based On ' Write Suitable Forms ' Type Tasks

Central to the IL hypothesis is the notion that a learner's separate linguistic system has a grammar which is characterised by a system of interim rules. It is also hypothesized that a language learner uses the rules creatively in an attempt to approximate those rules of the target language. We analysed the interlanguage structures in Appendix F_3 and the results are presented in the table below.

The first part contains IL rules which were used to approximate Target 1 and the second part has IL rules used to approximate Target 2.

Target 1: Aux +_Ø + Verb +_ing		Target2: Aux +_Ø+Verb + -Ø	
IL RULES	FREQ	IL RULES	FREQ
Verb + ed	4	Aux + Ø + Verb + -ed	4
Verb + ing	8	Aux + Ø + Verb + ing	3
(Aux + past) + Verb + ing	3	Aux + Ø + Verb + s	13
Verb + -s	2	Aux + Ø +(Verb + past)	17
Verb + -Ø	6		
Aux + Ø	2		

Table 5.L IL Rule Used to Approximate The Two Rules for Non Past Tense

A comparison between the total number of errors made in relation to the two targets seems to suggest that Target 2 proved to be slightly more difficult than Target 1. But further comparison between the *form* of the errors in the two targets shows that whereas *auxiliary* was supplied and the uninflected form of the auxiliary correctly used in relation to Target 2, learners did not supply *Auxiliary* in most of the expressions used to approximate Target 1.

Further analysis seems to show that the two targets might be subdivided into three different targets viz: *Aux + Ø, Verb + ing* and *Verb + -Ø*. The first target *aux + -Ø* is violated 23 times. Of these there are 20 frequencies in which aux + Ø is not supplied at all. One interpretation is that learners hypothesize that they can represent Aux + -Ø as *ZERO* hence they omit it. Then we have 3 frequencies in which Aux + -Ø is realized as (Aux + past). Unlike the first hypothesis which is erroneous in two respects, the latter hypothesis is erroneous in only one respect i.e. non-past tense is substituted with past tense.

The second target *Verb + -ing* was violated 14 times and the implicational order of the approximative forms is: [Verb + Ø] > [Verb + ed] > [Verb + s]. Besides this *Verb + -ing* might be regarded as having been avoided in the two frequencies which are reported in form of message abandonment. The third target *Verb + Ø* was violated 37 times. The IL forms used to approximate this target are:

[Verb + past] > [Verb + -s] > [Verb + -ed] > [Verb + -ing]

Let us now look at how the errors were distributed.

5.3:3

.2 Inter Group Variability In "Write Suitable Forms" Type Tasks

The 62 errors which the three groups made are unevenly distributed as follows: 22 errors (35.5%) were made by learners located at Time 1; 19 errors (30.7%) by those at Time 2, 13 errors (21%) at Time 3 and 8 errors (12.9%) at Time 4. These decreasing frequencies of error are evidence to support that learners made progress which must have been in

the direction of the target language norm because as errors decreased over time, the relative use of the target tense increased correspondingly. The distribution of the errors might also be used as evidence for the hypothesis that learners located at different test times do not experience equal degrees of difficulty.

The errors were re-distributed among the three groups arranged according to their first language. Then the errors for each group were re-distributed over time. In order that we might get a picture of the inter and intra group variations, we plotted the frequencies of error in the figure shown below.

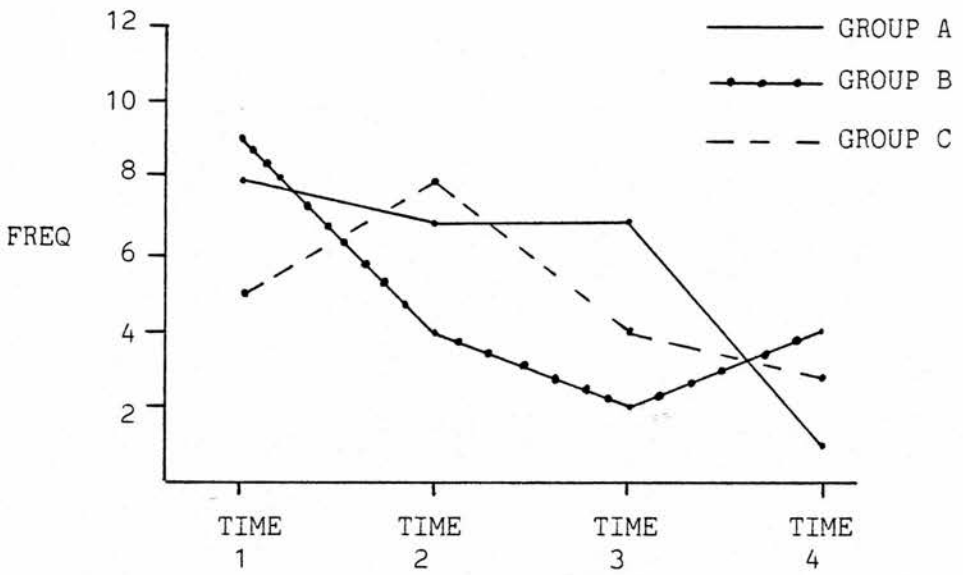


Figure 5.6 Relative Frequencies Of Error. Based On Tasks In In Section 5.3:3

The graph shows that there are inter group variations in the amount of error made at each test time and also in the pattern of eradicating the errors. But the general impression is that each group is seen making fewer errors as it moves from Time 1 to Time 4. A few deviations are also portrayed. For instance, the error count for Group B increased between Time 3 and 4 and the frequency of error for Group C increased between Time 1 and 2. These patterns show that learners eradicate non-target forms but they might backslide to non target forms.

Learners' performance results in the fourth task type are presented in the section which follows.

5.3:4

Performance With Transformation Type Tasks

The three transformation tasks which we set required learners to write out sentences in their negative forms. The auxiliary structure *do* was introduced in the process of the transformation, then the suffix -s in the target main verbs was transferred to the dummy *do*. These rule changes might be represented as follows:

Structural Description:	Verb + -s
Structural Changes:	do + s + Neg + Verb + Ø

Since *Neg* will be discussed in a later section of this chapter; we shall therefore focus on: do + s + verb + Ø as the target rule. The tasks are: Appendix A_3 item 6, 7 and 9. The errors made by learners are presented in Appendix F_4.

5.3:4

.1 Structures Based On Transformation Type Tasks.

Our interest is in the variable ways which learners used to approximate non past tense. This tense is represented as: Aux + -s + Verb + Ø. The rule has two parts which seem to have attracted a system of approximative rules. We focussed on how each part was being broken and found out that *Aux + -s* was violated 103 times and *verb + Ø* was violated 99 times. The first part proved to be slightly more difficult than the second part.

The IL forms used to approximate each of the two parts were re-analysed so that we might yield their structural forms. Each part of

the general rule attracted two IL rules. In the diagram below we present the relative distribution of the approximative rules.

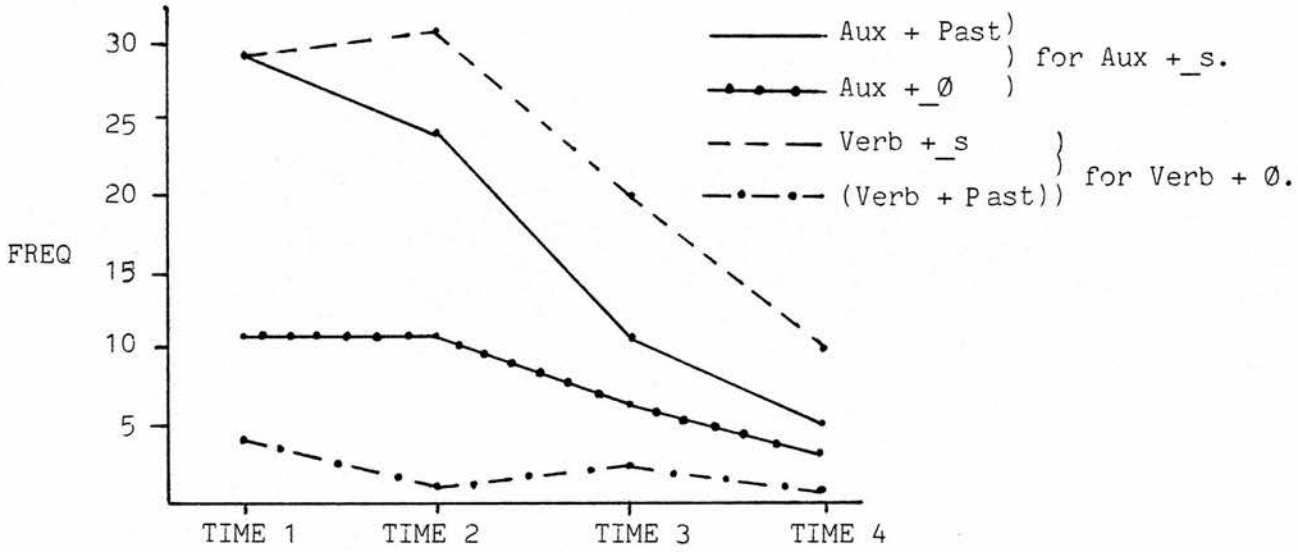


Figure 5.7 IL Forms Used To Approximate do + s + v + Ø Based On Tasks In Section 5.3:4 [Groups Combined]

The general pattern formed by the slopes of the curves might be interpreted that there is a relationship between learners' movement from Time 1 to Time 4 and the decrease in the frequencies of error. Henning (1978:394) suggests that a decline in error is an indicator of improvement in learners' performance. Improvement in learners' performance is therefore a process in which the non-target interlanguage forms are 'given up' and we can assume that this process correlates with a gradual acquisition of the target language rule for marking a non-past tense.

5.3:4

.2 Inter Group Variability In Transformation Type Tasks.

The three groups combined made a total of 125 errors: Group A made 39 errors (31.2%), Group B and Group C made 43 errors (34.4%) each. These differences are not large and we can claim that the even

distribution of errors suggests that learners drawn from the three different source languages experienced relatively equal degrees of difficulty in processing the three tasks.

Next in our concern is how these errors are distributed over time. We redistributed the errors made by each group along the temporal scale and our results are graphically presented below.

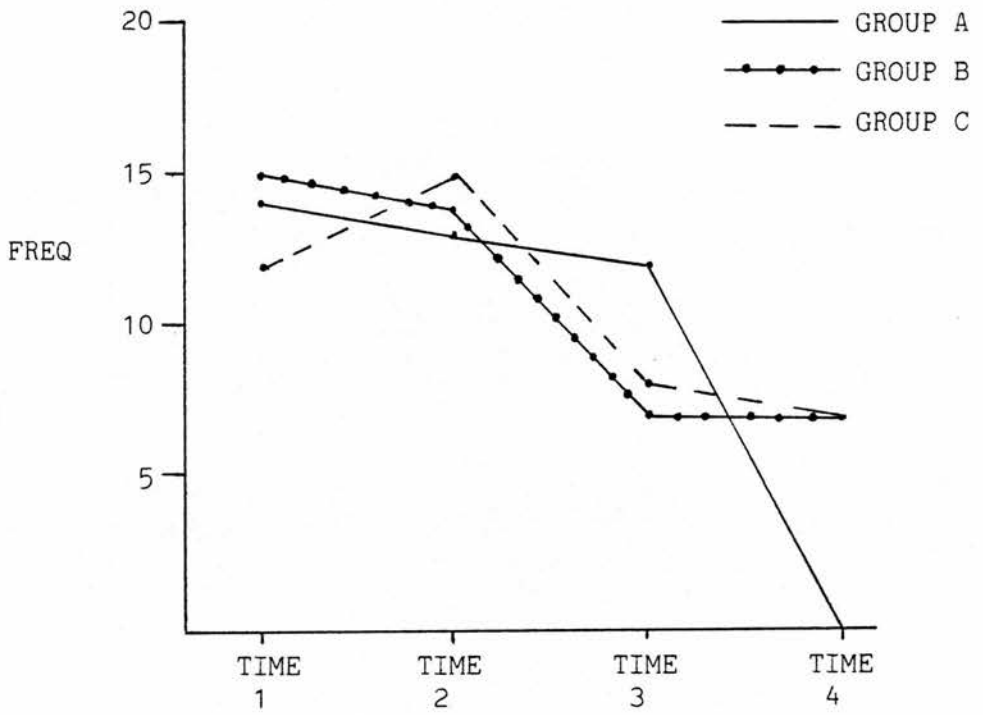


Figure 5.8 Distribution of Errors By Groups Based On The Tasks In Section 5.3:4

Although we have claimed that the three groups are homogeneous, the curves in the graph mirror the inter-group variations. In general the contours show that the eradication of errors is not achieved through a smooth progression. Errors might increase between one test time and another. For example, errors for Group C increased from 13 at Time 1 to 15 at Time 2. Sometimes learners make no progress. This is reflected by equal frequencies of error at two successive test times. For

instance, errors for Group B stayed at 7 between Time 3 and 4. On the other hand, the rate of eradicating errors might differ from one time interval and another. Both Group A and B eradicated errors at the same rate in the first time interval. Then Group B and C eradicated errors at a much higher rate than Group A in the second time interval.

A re-examination of the data in Appendix F_4 reveals that all the IL structures are distributed among the three groups arranged according to their source language. The implication for this is that the source language did not determine the type of IL structures which learners used.

5.3:5 Performance Within Translation Type Tasks

There were three obligatory contexts which we set to test learners' acquisition of non-past tense within the translation type tasks. The tasks are: Appendix A_4 item 2, 7 and 10. Learners were provided with Picture 1 to assist them get the intended meaning for item 2; and Picture 2 for items 7 and 10. The target translations are:

(1) The mouth of the man (who is) standing is not small.

(2) Those children { *are wearing* / *have worn* } white clothes.

(3) *Why does that child have long legs?*

The errors made in the process of making the translations are presented in Appendix F_5.

5.3.5

.1 IL forms Based On Translation Type Tasks

The target language rule required for the first task is: (Auxiliary + Non Past) + Verb -ing. Learners made ten errors in relation to this target rule. The auxiliary structure is supplied only two times. One of these frequencies has the target tense marked but the other has past tense marked. The target verb is used only six times and all are in the form *verb + -Ø* instead of *verb + -ing*. Besides these we have four cases in which the message is left unfinished. This might be evidence for the avoidance strategy. The use of avoidance does not give us any evidence for learners' IL ability in the tense which we are interested in.

The second task required either of the following two slightly different target rules: (Auxiliary + Non Past) + Verb + -ing or (Auxiliary + Non-past) + Verb + en. The rule with *-ing* had *be* as its auxiliary and the rule with *-en* had *have* as its auxiliary. Our interest is in the IL forms which learners used to mark tense. The part of the rule (Auxiliary + Non past) was violated 17 times. Out of these frequencies we have 9 which do not have the auxiliary. Consequently we do not have evidence of the IL forms which learners would have used to mark non-past tense. On the other hand the second part of the target rule was violated 26 times. An analysis of the interlanguage rules used to approximate the target rule yielded three non target rules which might be sequenced as follows:

[Verb + -Ø] > [Verb + past] > [Verb + -s].

The target rule for the third task is: Auxiliary + s + Verb + Ø. The auxiliary in this rule is the dummy *do*. Our analysis of the interlanguage data shows that learners substituted *be* for *do*. We have twenty three such cases which are reported in Appendix F_5. One interesting finding is that learners seemed to find it easier to mark the target tense on *be* than on *do*. We have 19 IL forms in which the target tense is marked. This represents 82.6% of the 23 cases mentioned above. The other four IL forms contain past tense instead of non-past

tense. There are 6 other cases in which past tense is marked on auxiliary and seven others in which there is no evidence of tense marking. The second part of the same rule was violated 23 times. The IL form *Verb + -ing* was used 17 times and *Verb + -s* was used 6 times.

5.3:5

.2 Inter Group Variability In Translation Type Tasks.

The three groups made a total of 95 errors: 37 errors (39%) by Group A, and 29 errors (30.5%) by each of Group B and C. Although there is a difference of 8 errors between Group A and each of Group B and C, the difference is not large enough for us to feel that Group A was much weaker that the other two groups. Consequently we can not claim that the first language of the learner was a factor which determined how relatively difficult the acquisition of non-past tense proved to be.

But the intergroup variability that occurred between groups located at different test times seems to be significantly large. Learners at Time 1 made 32 errors, those at Time 2, 3 and 4 made 29 errors, 24 errors and 10 errors respectively. We carried out a Chi square test on these frequencies and obtained $X^2 = 11.875$ which is greater than the Critical $X^2 = 7.814$, df = 3, and $p < 0.05$. The results of the Chi Square test suggest that the differences in the frequencies of error are large enough for us to conclude that learners located at different Time levels experienced unequal degrees of relative difficulty in processing the translation tasks which tested their acquisition of non-past tense. The distribution of errors suggests that learners at Time 4 have acquired more knowledge of the target tense than those at the preceding test times.

Intergroup variations might also be discussed in terms of differences in the rates of progress. Group A and B made 11 errors each at Time 1. This means that the achievement level for each group is 26.6%. The third group, Group C made 10 errors at Time 1 and its achievement level was 33.3%. We calculated the achievement level for each group at each

test time. The difference in scores between any two test times might be used to reflect the types of progress and also the rates of progress. These are illustrated in the table below.

GROUP A

	TIME 1	2	3	4
TIME 1	.	+6	-7	+46
2	.	.	-13	+40
3	.	.	.	+53

GROUP B

	TIME 1	2	3	4
TIME 1	.	+13	+17	+60
2	.	.	+4	+47
3	.	.	.	+43

GROUP C

	TIME 1	2	3	4
TIME 1	.	+0	+31	+40
2	.	.	+31	+40
3	.	.	.	+9

Table 5.M. Group Progress Rates Based On Increases In % - Age Achievement Scores.

The scores in this table reveal that there are different rates of progress between the three groups. In general, the scores for Group B seem to suggest that the group made the most rapid and consistent

progress. Intra-group variations are also revealed by the differences in scores at different time intervals. Furthermore the data in the table also reveal three types of progress. The first one is that which is reported in form of *positive* scores which suggest that progress was in the right direction, the second type is reported in *negative* scores which suggest that progress was in the wrong direction. The third type is reported in form of *ZERO* which means that there was no progress at all.

We shall now report learners' performance results in the last task type.

5.3:6 Performance In Pictorial Description Type Tasks

Each subject wrote two short pictorial description compositions based on Picture 3 and 4 in Appendix A_4. The interlanguage structures which were regarded as erroneous are presented in Appendix F_6.

5.3:6 .1 IL Structures Based On Pictorial Description Type Tasks

The interlanguage structures in Appendix F_6 were analysed so as to yield a system of IL rules. In order that we might have a clear picture of the types of hypotheses which learners make, we shall make comparisons between the IL rules and what we assumed must have been learners' intended targets. The table below contains the results of our analysis.

IL RULE	TARGET RULE	T1	T2	T3	T4
Verb + -Ø	Aux + Ø + Verb + ing	13	19	12	4
Verb + -ing	Aux + -Ø + Verb + -ing	1	0	1	0
Aux + -Ø + Verb + -Ø	Aux + -Ø + Verb + ing	4	4	1	0
(Aux + past) + Verb + -Ø	Aux + -Ø + Verb + ing	1	0	0	1
(Aux + past) + (Verb + past)	Aux + -Ø + Verb + ing	1	0	1	0
Aux + Ø + (Verb + past)	Aux + -Ø + Verb + ing	6	0	0	1

Table 5.N IL Rules Used To Approximate Aux + Ø + Verb + ing
[Group Combined]

The data in the table show that *Auxiliary + Ø* was violated 54 times. Of these we have 50 frequencies (92.6%) in which it is omitted altogether, hence zero representation. The rest, 4 frequencies (7.4%), are in the form (Aux + past). The second part of the rule *Verb + -ing* is violated 68 times and it is substituted with two IL forms and the implicational order of preference is:

[Verb + -Ø = 59] > [(Verb + past) = 9].

5.3:6

.2 Inter Group Variability In Picture Description Type Tasks.

Learners' compositions were scored using the ternary scoring system and then we distributed the subjects along performance levels. The results are presented in the next table.

PERFORMANCE LEVEL	TIME 1	TIME 2	TIME 3	TIME 4
0 - 19	2	0	0	0
20 - 39	1	3	1	0
40 - 59	6	5	2	0
60 - 79	6	7	7	2
80 - 100	0	0	4	13

Table 5.0 Distribution of Learners Along Performance Levels
[Groups Combined]

The data in the table show that the main clusters (or modes) of different groups of learners are at different performance levels. A comparison between the location of the main clusters reveals shifting patterns which suggest that there is considerable variability between learners located at different test times. Learners located at Time 1 cluster around 40 - 79, those at Time 2 and 3 cluster around 60 - 79, and those at Time 4 cluster at 80 -100. All the learners at Time 1 and 2 are regarded as *Not Acquired*, four subjects at Time 3 and 13 subjects at Time 4 are regarded as *Acquired*. We can therefore conclude that movement over time involves change in the learners' knowledge of the target tense.

Learners at Time 1, 2, 3 and 4 made 26 errors (37.1%), 23 errors (32.9%), 15 errors (21.4%) and 6 errors (8.6%) respectively. We carried out a Chi Square test and the results were $X^2 = 13.77$ which is greater than the Critical $X^2 = 7.81$, df = 3 and $p < 0.05$. Our interpretation of these results is that the difference in the frequencies of errors for learners located at different Time levels are large enough for us to conclude that the acquisition of non-past tense proved to be more

difficult to the learners at the lower test times than it did to those at the upper test times.

Group A made 26 errors (37.1%), Group B made 23 errors (32.9%) and Group C made 21 errors (30%). Since the differences are not large we might support the hypothesis that the acquisition of non-past tense proved to be of equal difficulty to groups arranged according to their L_1.

We shall now consider learners' overall performance in the acquisition of non-past tense.

5.3:7 Overall Functor Scores.

All the different task types were combined and using the ternary scoring method, we calculated functor scores for individual subjects. These are presented in Appendix C_1. We also computed functor scores for several groups arranged along various dimensions. The scores are in Appendix C_2.

In this section we shall consider the functor scores for learners arranged according to their source language but distributed at the four test times. The patterns of development are displayed in the next figure.

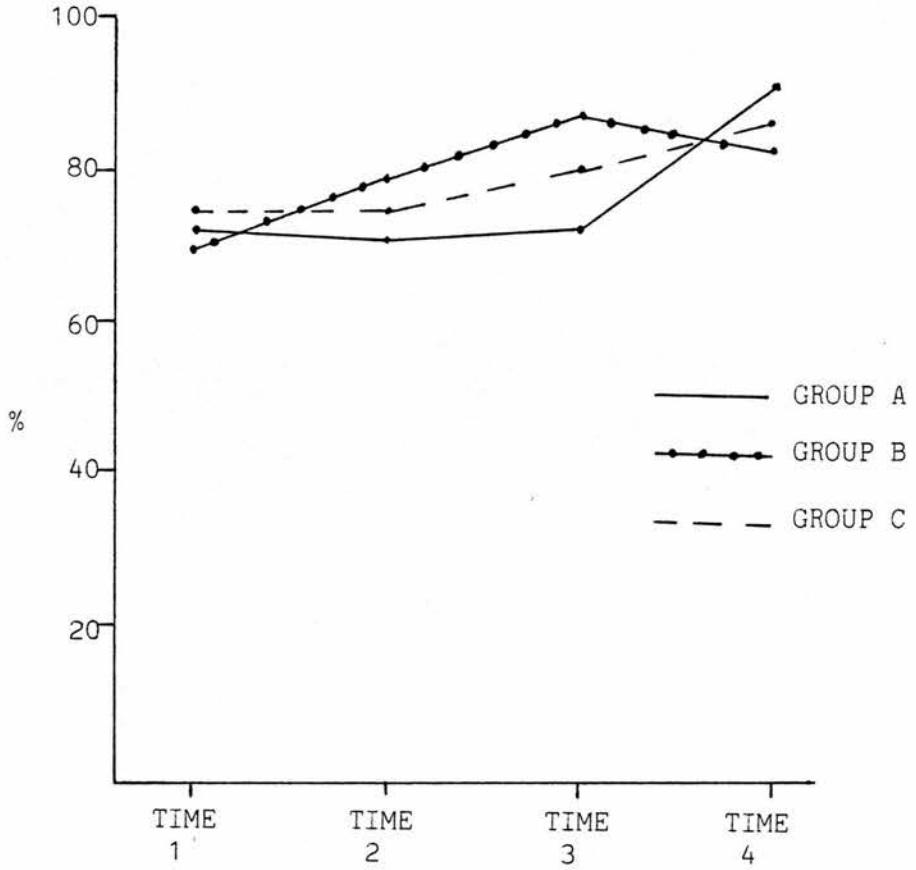


Figure 5.9 Overall Group Functor Scores
[All Tasks combined]

The diagram portrays the acquisition patterns for 3 groups. There is evidence of intra-group and inter-group variability because the acquisition curve for each group does not reflect a smooth progression. Scores might increase in one time interval and then decrease in another. The layering of the three curves appears to indicate that learners from the three different source languages were at slightly different achievement levels at the four test times; and that they made progress at different rates. In general Group B is portrayed as the overall best, followed by Group C and then Group A. There is a strong tendency to keep these relative positions between Time 2 and 3 but the curves criss cross as learners approach Time 4 where Group A emerges as the overall best. The differences in scores narrow down significantly at Time 4 and all the learners at Time 4 are regarded as having acquired non-past tense because their functor scores reach ≥ 80% criterion point.

5.3:8 Orders Of Acquisition Between The Three Tense Types.

We have considered learners' performance results in the acquisition of regular past tense in sections 5.1:0 - 5.1:6, irregular past tense in sections 5.2:0 - 5.2:6 and non past tense in sections 5.3:0 - 5.3:7. We computed functor scores for groups arranged according to various dimensions - see Appendix C_2. The Group Functor Scores for learners drawn from different source languages and located at different points in time are used for the purpose of drawing the table below.

Group/	REGULAR PAST				IRREGULAR PAST				NON-PAST			
TIME	1	2	3	4	1	2	3	4	1	2	3	4
A	3	2.5	3	2	2	2.5	2	1.5	1	1	1	1.5
B	2	3	2.5	3	3	3	1.5	2	1	1	1	1
C	3	2	3	2	2	3	2	3	1	1	1	1

Table 5.D Rank Of The Three Tense Types Based On Scores In Appendix C_2

The evidence which we have in the table might be used to make two tentative conclusions. Firstly, the rank of non-past tense shows it was the least difficult. Consequently it would be acquired early but regular past tense which proved to be the most difficult would be acquired last. Secondly, the groups are almost in perfect agreement with regard to the orders of acquisition. This seems to suggest that the *source language* and *Time* do not influence the order of acquisition, rather it is the target language which guides the sequence of acquisition.

We shall now consider learners' performance results in the acquisition of the fourth structure which is under investigation.

5.4:0 Regualar Plural

The procedure used in reporting learners' performance results in the three tense types is adopted here. Learners' performance results in different task types are presented separately first. Then overall functor scores are calculated after all the obligatory contexts for the functor are combined.

In this research project the suffix -s (also referred to as the short plural) and -es, (the long plural), are regarded as the markers of regular plural. The target rule will therefore be:

$$\text{Noun} + \begin{cases} -s \\ -es \end{cases}$$

5.4:1 Performance Within Multiple Choice Type Tasks.

Four multiple choice type tasks had an obligatory context each for regular plural. The tasks are Appendix A_1 items 7, 8, 10 and 18. The types of IL forms and the targets which were being approximated are presented in Appendix G_1.

5.4:1
.1 IL Forms Based On Multiple Choice Type Tasks.

We have noted that the target plural may be marked with either of the two variants -s or -es. Some of the nouns in the tasks required the short plural and others required the long plural. Our preliminary analysis of the interlanguage forms in Appendix G_1 must therefore be in relation to the two variants. But such nouns as *boyfriend* might be considered seperately because they require the rule *Noun + Ø + Noun + s*.

Learners made only two errors in trying to mark plurality with the suffix -s. The two errors are in the form Noun + -es. On the other hand learners made 59 errors in trying to approximate the long plural . These errors are distributed as follows: the unmarked noun *Noun + -Ø*

was used 51 times (86.4%) then *Noun -ies* was used 6 times (10.2%) and finally *Noun + -s* was used 2 times (3.4%). A total of 55 errors were made in relation to the nouns which required the target rule *Noun + -Ø + Noun + -s*. The distribution was as follows: *zero plural marking* on the two nouns 22 times (40%),-S *plural marking* on the first noun 14 times (25.5%) and *-s plural marking* on the two nouns 19 times (34.5%).

The data which we have shows that *zero plural marking* is used 87 times. This shows that learners preferred the unmarked noun forms than the marked plural forms of nouns. Then the short plural -s is used 35 times in non-obligatory contexts. This might be interpreted as evidence for the strategy of *Overgeneralization*.

5.4:1

.2 Inter Group Variability In Multiple Choice Type Tasks

The learners' responses contained 116 errors which were distributed in the following order: 32 errors (27.6%) at each of Time 1 and 3, 35 errors (30.2%) at Time 2 and 17 errors (14.7%) at the fourth test time. The frequencies of error at the first three test times do not show large differences and this seems to be another case which suggests that learners' movement along the Time scale did not have significant effects on the achievement scores but tremendous variability occurred between Time 3 and 4 because the frequency of error fell from 32 to 17.

One of the key interests in this research project is to find out whether the source language of the learner influences how the target language is acquired. The two main aspects we have been considering are the relative difficulty experienced by learners and also the types of errors which learners drawn from different source languages make.

We made tallies of errors made by different groups and found out that Group A and Group C made 42 errors (36.2%) each and Group B made 32 errors (27.6%). Two conclusions might be ventured here. First, the distribution of the errors suggests that the three groups formed a

fairly homogeneous sample with regard to their proficiency levels. Consequently they experienced relatively equal degrees of difficulty in processing the tasks which tested their acquisition of regular plural. The second is an inference which is based on this finding. Since learners drawn from different linguistic backgrounds experienced relatively equal degrees of difficulty, it follows that none of the three source languages had greater facilitative effects than the others. In other words the acquisition of the target language is of equal difficulty to all learners regardless of their source language.

In order that we might get a picture of how each group made progress in the eradication of errors, we distributed the errors made by each group over time and the patterns of development are displayed in the graph below.

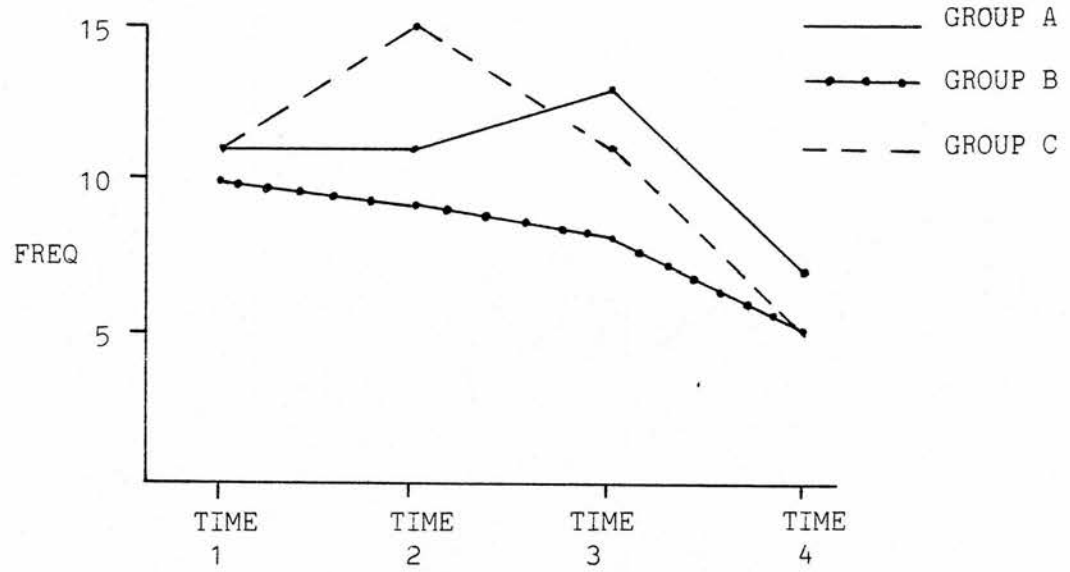


Figure 5.10 Relative Frequency of Errors by Groups

Several types of intergroup variations are reflected on this graph. First, the three groups made unequal amounts of error at each of the test times but Group A and C made 11 errors each at Time 1 and Group B and C made 5 errors each at Time 4. Although the contours portray progress between Time 1 and 4 as a gradual decrease in the frequency of error, there are two deviations from the general pattern. Errors for Group A increased from 11 to 13 between Time 2 and 3 and errors for Group C increased from 11 to 15 between Time 1 and 2. The data also

showed that as errors decreased; there was corresponding increase in target-like use of regular plural. We calculated the frequencies of target plural forms and converted them into percentage scores. We found out that Group A progressed from 45% at Time 1 and reached 65% at Time 4; Group B who were slightly better than Group A progressed from 50% and reached 75% at Time 4. The third group started at 45% and prgressed to 75% at Time 4. Since the three groups did not reach 80%, they might be regarded as *not acquired.*

Next in our concern is the types of variations that might occur with regard to the types of errors made by different groups. If it is the case that learners from different linguistic backgrounds use universal cognitive mechanisms in processing a common target language, then they should be found making similar types of errors.

We analysed the interlanguage structures in Appendix G_1 so as to yield the variable types of marking plurality. These are distributed among the three groups as follows.

TYPES OF PLURAL MARKING	GROUP A	GROUP B	GROUP C	χ^2
zero plural marking	27	20	26	1.208
-ies plural marking	3	1	2	1.0
-s plural marking on two nouns	7	6	6	0.167
-s plural marking on 1st noun	4	5	5	0.2
-es plural marking	0	0	2	3.0
-s plural marking	1	0	1	1.0

Table 5.Q Relative Use Of Several Types Of Plural Marking

Nearly all the types of marking plural are distributed among the three groups. Furthermore the results of the Chi Square tests suggest that the differences that occur in how frequently each group made use of each of the plural marking are not large. The conclusion we draw from these results is that the source language of the learner did not have causal effects on the types of interlanguage structures learners used. The types of IL forms used by learners were therefore dependent on the structure of the target language.

The results of learners' performance in a different task type are presented next.

5.4:2 Performance Within Grammaticality Judgement Type Tasks

Items 22 and 26 in Appendix A_1 and item 7 in Appendix A_2 had seven predetermined errors. Learners were expected to identify the obligatory contexts for regular plural and to add the missing functor -s. Besides these tasks we have item 4 in Appendix A_2 which has the functor -s used in a non-obligatory context and learners were expected to correct this error by dropping the infix -s in the word *barsmaids*. The interlanguage structures which were considered as erroneous are presented in Appendix G_2.

5.4:2

.1 IL Structures Based On Grammaticality Judgement Type Tasks

Three targets might be identified from a structural analysis of the nouns which had to be pluralized. The first target is *Noun + -s*. Learners made 95 errors which are in the form Noun + -Ø. The uninflected noun forms are used as the approximants of the functor -s. The second target is *Noun + -s + Noun + -s* which produced 26 errors and all these are in the form Noun + -s + Noun + Ø. A comparison between the target and the IL rule shows that the part *Noun + -Ø* is erroneous because the suffix -s is not supplied. We might therefore

conclude that the unmarked noun form is once again used as the best approximant of the inflected Noun + -s. The third target is *Noun + Ø + Noun + -s* and this target attracted 6 errors which are in the form Noun + Ø + Noun + -Ø. A further comparison between the target and the interlanguage rule shows that the second part *+ Noun + -Ø* is erroneous because it is used instead of Noun + -s. The evidence which we have now suggests that the uninflected *Noun + -Ø* was used 127 times instead of the short plural - *Noun + -s*.

5.4:2

.2 Inter Group Variability In Grammaticality Judgement Type Tasks

The subjects made 127 errors. When distributed along the dimension of Time we found out that 60 errors (47.2%) were committed at Time 1, 48 errors (37.8%) at Time 2, 16 errors (12.6%) at Time 3 and 3 errors (2.4%) at Time 4. The results of a Chi square test which we carried out on these frequencies of error seemed to suggest that the errors were unevenly distributed. Our interpretation of this uneven distribution is that the groups did not experience equal degrees of difficulty in making their grammaticality judgements.

The errors were redistributed among the three groups arranged according to their native language. We found out that Group A made 42 errors (33%) , Group B made 44 errors (34.7%) and Group C made 41 errors (32.3%). This is a fairly even distribution of errors. Next in our interest is to find out the types of interlanguage forms used by learners drawn from different source languages. Group A produced 30 errors (31.6%) in the form of *ZERO plural marking*, Group B and Group C produced 33 errors (34.7%) and 32 errors (33.7%) respectively. We noted that the second type of error is in the form of marking plurality with the functor -s on only one of the nouns within such structures as *pairs of trousers*. The distribution of this type of error among Groups A, B, and C was 9 errors (34.6%), 10 errors (38.5%) and 7 errors (26.9%) respectively. The last type of error is in the form of failure to mark plurality on the second noun within the expression *a pair of scissors*.

This attracted 3 errors (50%) from Group A, 1 error (16.7%) from Group B and 2 errors (33.3%) from Group C.

Although there are variations with regard to how frequently the different groups used specific types of plural marking, the evidence which we have seems to suggest that such differences are not very large. What is more important to us is the fact that all the different types of interlanguage forms are distributed among the three linguistically diffferent groups. The data which we have also shows that when learners are faced with the need to communicate in plurality but with insufficient knowledge of the plural system of English they prefer the uninflected nouns.

Learners performance results in a different task type are presented in the next section.

5.4:3 Performance Within Transformation Type Tasks.

Eleven transformation type tasks had a total of nineteen obligatory contexts for regular plural. Two of these - Appendix A_2 item 10 and 16 - had the target nouns in brackets and learners were supplied with sufficient linguistic clues so as to make pluralization an obligatory transformation.

The learners' performance results showed that these two tasks proved to be quite easy because all the learners combined reached $\geq$ 80 accuracy level. There was little variability in the types of interlanguage structures used by learners. The unmarked noun *bus* was used four times and the interlanguage structure *cattle* was used six times and *calves* was used once.

These interlanguage structures approximated the target *cows*. Our interpretation of these interlanguage forms is that learners used the strategy of lexical substitution (Palmberg (1979)) or they used 'high-

coverage words' (Levenston 1971). What is important is that these words are marked for plurality.

Besides these we observed three instances of message abandonment and these do not yield any evidence of learners' interlanguage ability in marking regular plural.

The other nine tasks i.e. Appendix A_3 items 11 - 19 are regarded slightly different because they did not contain linguistic clues but according to the instructions, learners were required to write out these items in their plural forms. Three of the sixteen contexts in these tasks had to be occupied by the long plural -es and the rest by the short plural -s.

5.4:3

.1 IL Structures Based On Transformation Type Tasks

The types of errors which are reported as interlanguage structures and interlanguage rules in this research project are important to us for three main reasons. Firstly, they are the data from which we evolve the grammar of the language learner language. Secondly, they reveal to us the types of processes and strategies that learners use in acquiring specific target structures. Thirdly the similarity or dissimilarity in the interlanguage is the evidence which we use to reject or accept the hypothesis that learners from different source languages show similar interlanguage grammar and continuum in the process of acquiring specific structures of the TL.

The interlanguage structures which were used by learners are in Appendix G_3. We analysed these structures and the summary is in the table below.

INTERLANGUAGE FORM	GROUP A	GROUP B	GROUP C	χ^2
zero plural marking	38	58	60	5.69
functor -s in non obligatory contexts	15	20	21	1.11
no Noun-Verb plural concord	25	27	30	0.48
functor -s instead of functor -es	2	3	1	1.0
no determiner-noun plural concord	9	15	13	1.58

Table 5.R Distribution Of IL Forms Among Groups. [Time Combined]
df = 2 $p < 0.05$

The specific nature of the distribution of the interlanguage forms in the table above is in support of the hypothesis that the acquisition process is guided not by the structure of the source language but by that of the target language. This is so because learners from the three different languages used similar interlanguage forms in acquiring regular plural.

The data in the table are further corrobative evidence to support the hypothesis that when learners are faced with the need to communicate plural meanings which require that nouns be inflected; yet with insufficient knowledge of the plural system of the target language, learners will prefer the uninflected noun forms. Besides this, we have evidence that the functor -s was being used in non-obligatory contexts. This is what Olshtain (1979:91) calls *an expanded usage* of a functor over and above the obligatory context. Such evidence might suggest that learners have not acquired the function of the functor.

In addition to the interlanguage structures which we have discussed, we observed two cases in which the message was abandoned. Items 12 and 13 in Appendix A3 were presented as: "A female_____ and, "This buil_____" respectively. The messages are left unfinished and we have no evidence for learners' interlanguage ability in marking regular plural. Since the tasks were presented in singular; we can assume that learners were avoiding *plurality* rather than the lexical items.

5.4:3

.2 **Inter Group Variability In Transformation Type Tasks**

Since we have a fairly large number of obligatory contexts within this task type, we decided to calculate group functor scores which are in the table below.

GROUP	TIME 1	TIME 2	TIME 3	TIME 4
A	72	77	75	91
B	43	88	83	81
C	79	84	91	81

Table 5.5 Group Functor Scores [Based On Tasks In Section 5.4:3 only]

Although our groups are regarded as homogeneous there is evidence for inter group and even intra-group variabilities. The acquisition score for Group B is particularly very low at Time 1. This was affected by two of the five subjects who seem to have misinterpreted the instructions given to the learners. Thus instead of performing the singular to plural transformation, one of them performed a masculine to feminine transformation and vice versa. The second subject attempted

all the tasks but instead of doing what we required, he concentrated on pluralizing possessive determiners or pronouns. The very low scores for the two subjects affected the overall group functor score.

But the group progressed and reached ⩾ 80% acquisiton point at Time 2 after which their development progressed slowly in the wrong direction.

The three groups progressed at different rates. In order to capture the variations in progress rates, we calculated the frequencies of error made by each group at the four different test times. Group A, B and C made 26 errors, 28 errors and 36 errors respectively at Time 1. The decreases in error between one time and another are presented in the table below.

GROUP	TIME 1	2	3	4
A	.	-5	-3	-9
B 1	.	-2	-3	-4
C	.	-11	-7	-18
A	.	.	+2	-4
B 2	.	.	-1	-2
C	.	.	+4	-7
A	.	.	.	-6
B 3	.	.	.	-1
C	.	.	.	-11

Table 5.T Group Progress Rates In Eradicating Errors.

If we use the notion of declining frequencies in error as evidence to support the view that learners are making progress then we might conclude that the scores in the table support such a view. But a few

deviations are noticeable where the frequencies of error for Group A and C increased between Time 2 and Time 3. These variations reflect a language acquisition process which involves hypotheses testing and backsliding to hypotheses which have been tested and dropped.

On the other hand a comparison between the scores for the three groups at each Time interval reveals that Group C developed at a higher rate than the other two groups.

We carried out a Chi Square test on the total number of errors for each group (in Table 5.R) and obtained $\chi^2 = 7.3$ which is greater than the critical $\chi^2 = 5.99$, df = 2 and $p < 0.05$. The conclusion we draw here is that the errors are not evenly distributed. Group A which made the least amount of errors must have found the tasks relatively less difficult than did the other two groups. We cannot however make very strong claims because these results are based on only one task type.

Let us now look at the learners' performance results in a different task type.

5.4:4 Performance Within Translation Type Tasks

We set six translation type tasks each with one obligatory context for regular plural. Four of them required plural marking with the suffix -s and the other two needed the suffix -es. Learners were instructed to read the instructions carefully. They were supplied with two pictures which were useful in decoding the meaning in each task. This means that learners were not expected to render word for word translations but to convey the communicative meaning in acceptable English. All the tasks are in the Appendix A_4. The target translations for the tasks are:

1) These peoples' clothes are not dirty. (item 4)
2) Many people watched the competitions. (item 5)
3) One of the children's shoes are not good. (item 6)

4) Those children { have worn / are wearing } white clothes (item 7)

5) Two white people have long noses. (item 8)

6) Why does that child have long legs? (item 10)

The errors which learners made are in Appendix G_4

5.4:4

.1 IL Forms Based On Translation Type Tasks

The interlanguage structures in Appendix G_4 were analysed and the interlanguage rules which we evolve are presented in our next table. Since these rules were used in contexts which would have been occupied by regular plural, we assumed that learners used them as approximants of the short and long plural.

TARGET RULE	IL RULE	TIME 1	TIME 2	TIME 3	TIME 4
Noun + es	Noun + -s	6	4	6	7
	Noun + -Ø	13	3	4	1
Noun + -s	Noun + Ø	15	18	10	9

Table 5.U IL Forms Based On Tasks In Section 5.4:4

Learners' tendency to prefer zero-marking of plurality is reflected by the scores in the table. Of the 96 errors which we have, 73 are in the form Noun + -Ø. This represents 76.0%. The four tasks which required the short plural -s provoked 52 errors and these errors are in the form Noun + -Ø. This gives an average of 13 errors per task. On the other hand, the two tasks that required the long plural -es provoked 44 errors which gives an average of 22 errors per task. These results suggest

that the long regular plural proved to be slightly more difficult than the short regular-plural.

Besides the interlanguage structures which are systematic and conform to the interlanguage rules above, we noted six others in which the message is left unfinished and we might assume that learners used the avoidance strategy. Thus for Task 2 we have "...they look_____" and "....see compet_____", and for Task 4 we have: "Children wear white _____".

It is important to note that learners abandoned the message immediately they got to the target nouns which had to be pluralized. Such cases do not yield evidence for learners' interlanguage ability in the structure we are interested in.

5.4:4

.2 Inter Group Variability In Translation Type Tasks

The three groups made 96 errors which can be analysed structurally and be grouped into several categories. Besides these we observed the six other cases in which the message is left unfinished and we classified these as evidence for the avoidance strategy. Although such cases do not yield any evidence for the functor which we are interested in, they are important in that they reveal one of the non-communicative strategies which learners resort to when they are faced with the need to communicate but find that they cannot because of their insufficient knowledge of the target structure.

We made frequency counts of the errors at each test time and found out that learners at Time 1 made 34 errors (35.4%), those at Time 2 made 25 errors (26.0%), and learners at the subsequent two test times made 20 errors (20.8%) and 17 errors (17.7%) respectively. We carried out a Chi Square test and our results are $\chi^2 = 6.92$ which is slightly smaller than the critical $\chi^2 = 7.81$, df = 3, and $p < 0.05$. Our interpretation of these results is that the groups of learners located at the four test

times experienced equal degrees of relative difficulty in processing the translation type tasks. This is another case which seems to support the hypothesis that learners' movement along a Time scale does not influence the relative degree of difficulty which learners experience.

We also assessed whether there is any relationship between the frequencies of error, Time, and performance levels. Learners were scored using the ternary scoring method and distributed by performance levels as shown in the next table.

PERFORMANCE LEVELS	TIME 1	TIME 2	TIME 3	TIME 4
0 - 19	0	1	0	0
20 - 39	1	1	0	0
40 - 59	1	3	0	0
60 - 79	13	10	14	12
80 - 100	0	0	0	3

Table 5.V Distribution Of Learners By Performance Levels
[Based On Tasks In Section 5.4:4]

A comparison between the scores in this table and those in Table 5.U. gives further support to the conclusion we made earlier - that learners' movement over time did not seem to have significant effects on learners' achievement. The data in the table above shows that the mode for learners located at the four test times is within the 60 - 79 performance level and in fact Time 1 has slightly more learners (13) than either Time 2 or Time 4.

If we include the six cases of avoidance, we find that the three groups made 102 errors. Of these Group A made 32 errors (31.4%), Group B made 37 errors (36.3%) and Group C made 33 errors (32.4%). All the types of errors discussed in relation to translation type tasks were distributed among the three groups.

The performance results in the last task type are presented below.

5.4:5 Performance In Pictorial Description Type Tasks.

The learners created sufficiently large numbers of obligatory contexts for us to calculate Group Functor scores. The results which we obtained showed very high functor scores. For instance, both Group A and Group B had scores which were above 80% at Time 1 and the third group had 79% which is only one mark below the criterion mark for 'acquired'. The relatively high scores resulted from the types of structures and syntactic constructions which learners used to describe the two pictures. Their work was full of repetitions and this means that a learner would create several obligatory contexts for regular plural but repeated in the same word or in just a few different words. As an illustration we had the following: *"The man is carrying things in baskets. There are many things and the baskets are heavy"*. These are four obligatory contexts for the functor -s but in two different words.

There was therefore very little variability with regard to interlanguage structures and scores for different groups but the frequencies of error decreased steadily between Time 1 and 4. Many interlanguage structures were in the form of spelling mistakes and they cannot therefore be regarded as errors. In a few cases we had regular plural used in non-obligatory contexts.

We shall now combine all the task types and present the functor scores which we obtained.

5.4:6 Overall Functor Scores

All the obligatory contexts for regular plural in the different task types were combined and individual subjects scored using the three point scoring method. The scores for individual learners are in Appendix C_1 and those for groups are in Appendix C_2. In the diagram below we present learners' progress over time in form of increasing functor scores.

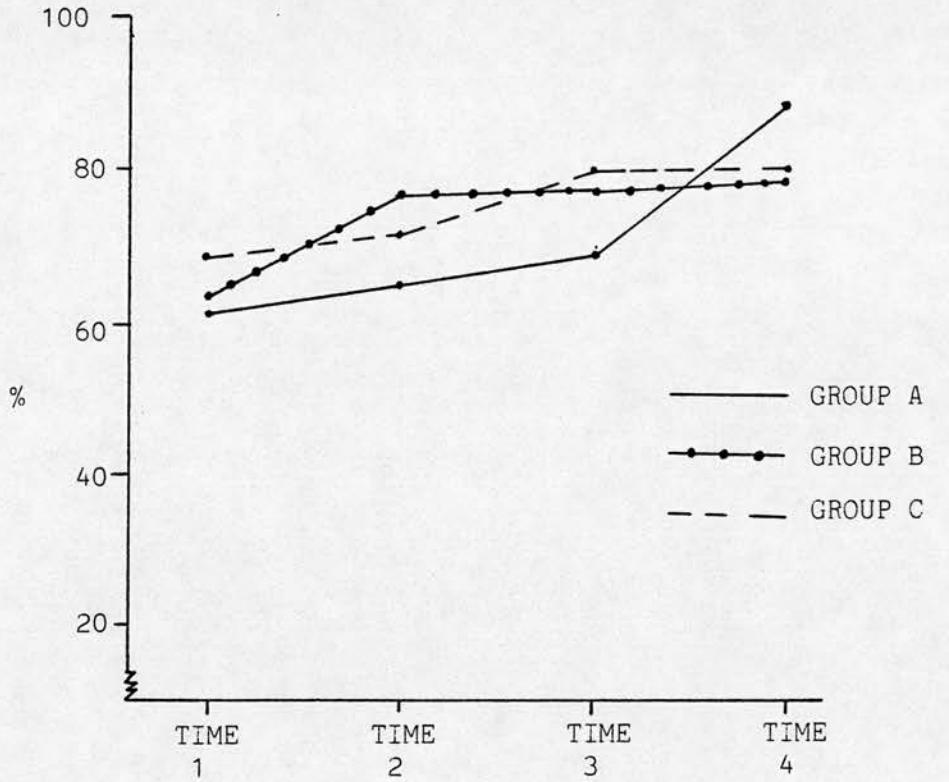


Figure 5.11 Overall Group Functor Scores

The interpretation of the increasing functor scores is that learners were acquiring more knowledge of the functors which are used to mark regular plural. The three groups exhibit a fair amount of variability. For example, Group C reached the acquisition mark at Time 3, Group A at Time 4 but Group B did not reach it. Although Group A and C are regarded as 'Acquired', the notion *acquired* does not mean that such groups have *native competence*, rather we assume that such groups have acquired "native-like" competence.

We shall now consider the acquisition of the fifth structure which was investigated.

5.5:0 Irregular Plural

This structure, like the preceding ones which we have reported, was elicited in a series of different types of tasks. We shall therefore report learners' performance results in each of the different task types seperately first and then combine all the tasks for the purpose of calculating overall functor scores for individual learners and also for groups of subjects.

5.5:1 Performance Within Multiple Choice Type Tasks

The learners responded to six multiple type tasks. Although it is difficult to state one target language rule for irregular plural, we might note a few regularities in the tasks which were set. Three of the six tasks have target nouns which end in the consonant -f , and this is substituted with -ves as in shelf/shelves etc. The three tasks which belong to this category are: Appendix A_1 item 3, 4, and 5. Then we have one task - Appendix A_1 item 12 - which has a final -y and this changes to -ies. Another task (Appendix A_1, item 14) has a target noun which has the same morphological form for its singular and plural. The last task (Appendix A_1 item 15) has a target noun whose singular to plural transformation involves changes in vowels. In this case the double -oo- change to double -ee-. The six tasks provoked 87 errors: 32 errors (36.87) at Time 1, 24 errors (27.6%) at Time 2, and 18 errors (20.7%) and 13 errors (14.99) at Time 3 and 4 respectively.

5.5:1

.1 **IL Structures Based On Multiple Type Tasks**

The set of interlanguage structures which learners used are among those presented in Appendix H. This Appendix contains samples of interlanguage structures from all the task types which we set to elicit learners' interlanguage ability in irregular plural.

The IL structures which were used by learners were analysed and the results showed that three different types of IL rules were applied to approximate irregular plural forms. The rules are presented in the graph below.

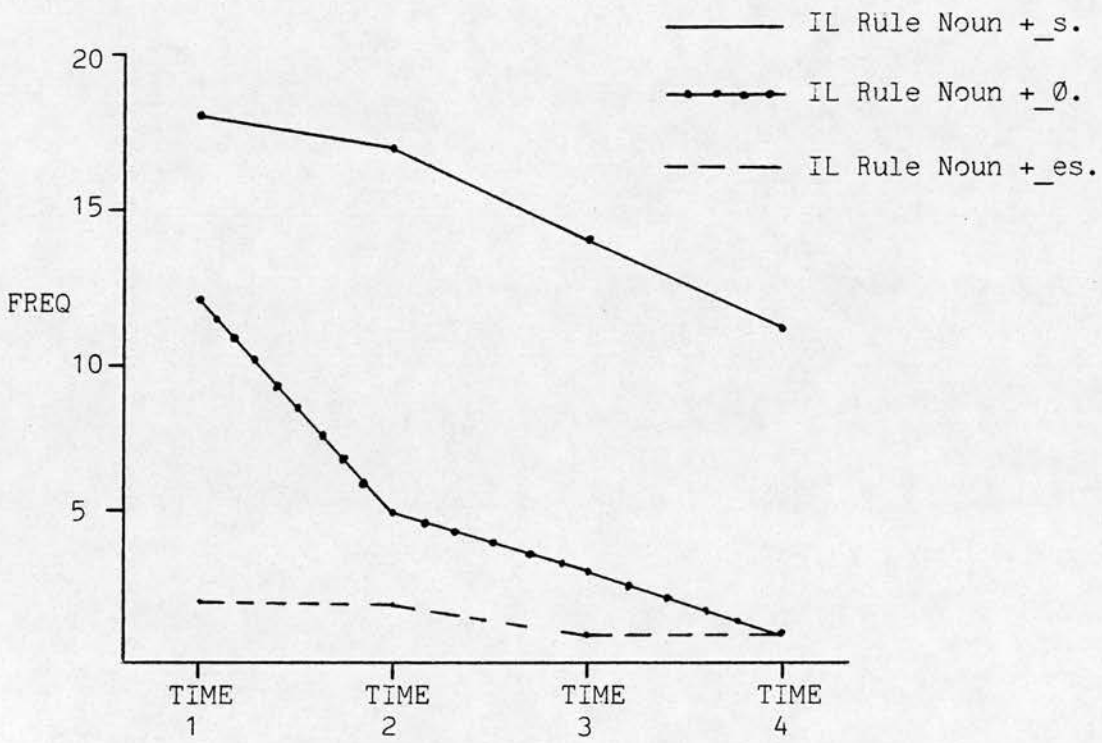


Figure 5.12 Relative Use Of 3 IL Rules Based On Tasks In Section 5.5:1 (Groups Combined)

It is important to point out that the interlanguage rule for such a structure as *pockets money* is regarded as violating only the first part and the expression *pockets moneys* violates the two parts. The two share

one important characteristic. The suffix -s is used in non-obligatory contexts and we can therefore represent the two with the non-target rule *Noun +-s*.

The layering of the three curves indicates the *order of preference* and each interlanguage rule seems to have kept its position relative to the other IL rules. Learners preferred to mark irregular plural with the suffix -s which in turn yields evidence for learners' communicative strategy. A communicative strategy is a conscious attempt to communicate learners' thoughts when the interlanguage structures are inadequate to convey that thought (Varadi 1973). The evidence which we have seems to suggest that learners preferred the strategy of overgeneralization. The strategy of overgeneralization in syntax is a process in which a language learner uses a syntactic rule of the target language inappropriately when he attempts to generate a novel target language utterance (Taylor 1975). The second rule to be preferred is Noun +-Ø. This seems to suggest that learners may use the unmarked forms whenever they find themselves in need to communicate but they are not sure about the TL-forms to use.

A re-examination of the types of suffixes used by learners shows that the -s, zero, and -es are commonly used in the target language for the purpose of marking plurality. We might therefore think that the subjects who used these suffixes have mastered the basic mechanics of pluralization in English but they have not acquired the appropriate rules which restrict each suffix to specific syntactic environments. In other words, learners need to acquire distributional rules for these three allomorphs of plural.

The slope of each curve also indicates that learners were testing and revising each interlanguage rule and that learners' movement along time correlates with gradual eradication of the non-target rules. We might also conclude that learners were gradually acquiring the target language rules as they eradicated the non-target ones.

We shall now consider performance results from the second task type.

5.5:2 Performance Within Grammaticality Judgement Type Tasks

The learners' ability to identify the pre-determined errors and to make the necessary corrections are assumed to be evidence for their acquisition of irregular plural. We set three grammaticality judgement type tasks Appendix A_1 item 24, Appendix A_2 items 3 and 4. The three groups made 104 errors which are also included in Appendix H. The form and distribution of the errors are discussed in the next two sections.

5.5:2 .1 IL Structures Based On Grammaticality Judgement Type Tasks

Out of the interlanguage structures which we collected 91 errors (i.e. 87.5%) were grouped into five categories which are shown in the table below.

TARGET STRUCTURE	IL RULE	FREQ
...policemen	(Noun +pl) +-s	12
two halves	Noun +-Ø	5
...passersby	Noun +-Ø + preposition +-s	30
...passersby	Noun +-Ø + preposition +-Ø	15
...two halves/policemen	Noun +-s	29
	TOTAL	**91**

Table 5.W IL Rules Based On Tasks In Section 5.5:2.
[Groups Combined]

A comparison between the target structures and the interlanguage rules sheds light on how learners approximated specific targets. Besides this, the systematic analysis of the interlanguage rules casts light on the types of strategies learners use in the process of acquiring irregular plural.

The learners constructed the interlanguage rule *Noun +-Ø + preposition +-s* and used it 30 times. One conclusion which we can draw from this developmental error is that there are two aspects of syntax which have been overgeneralised. First, that the suffix -s which is a marker of plurality can be applied universally. Secondly, that this functor always occurs as a bound morpheme of the last constituent structure in a noun phrase. The next hypothesis which learners formed is reflected in the interlanguage rule *Noun +- Ø preposition +- Ø.*

There are 15 frequencies of this rule. One interpretation of the form is that learners used the uninflected noun phrase (unmarked) yet the intended message required the inflected noun phrase (marked). A comparison between the IL rules *Noun + -Ø + preposition + -s* and *Noun + -Ø + preposition + -Ø* shows that the first is erroneous in two respects and the second is erroneous in only one respect. But the first is more target-like than the second because it has evidence of marking plurality.

It is therefore right to think that learners will move from *Noun + -Ø + preposition + -Ø to Noun + -Ø + preposition + -s.* This is evidenced by the frequencies which we have quoted above.

Further evidence of learners using the strategy of overgeneralization is to be found in the 29 subjects who constructed and used the IL rule Noun + -s for such expressions as *two halfs.*

The bound morpheme -s is in this case substituted for the internal morphological changes that occur in some nouns in marking plurality. It is also most likely that the 12 subjects who constructed the double pluralized expressions such as *policemens* might have assumed that a

word such as *policemen* is in its singular form. Consequently the IL rule (Noun + plu) + s might also be interpreted as having evidence for overgeneralization. If this assumption is correct then we have 71 errors (78.02%) of the 91 errors which reveal learners' over-dependence on the strategy of overgeneralization.

Besides the interlanguage structures which we managed to classify into specific groups, we noted a few *others* which do not belong to any of the categories which we have in the table above. Dulay, Burt and Krashen (1982) admit that many taxonomies of error include a 'grab bag' for items that do not fit into specific categories. We noted the following: "...cut the orange into two_____". "...cut the orange and gave it_____", "She cut_____". These interlanguage forms have one thing in common. The message is left unfinished and our interpretation of these structures is that they are evidence for the avoidance strategy. The first two are particularly important for us because learners avoided using the target structures which would have carried plurality. Since the target structures were in the tasks but in singular form, we might be right in claiming that learners were avoiding the notion plurality.

5.5:2

.2 Inter Group Variability In Grammaticality Judgement Type Tasks

The distribution of the 104 errors was as follows: Group A made 37 errors (35.6%), Group B made 36 errors (34.6%) and Group C made 31 errors (29.8%). Since these results do not show large differences we can assume that the relative difficulty in processing the grammaticality judgement tasks was not influenced by the three source languages. The implication for this is that the degree of difficulty is largely dependent on the structure of the target language.

The scores of error for each group as quoted above conceal some important aspects of inter and intra-group variability. In order to get a better understanding of how groups showed differences, we made tallies

of the learners from each group who used the target structures correctly. The frequencies were converted into percentages which we present in the graph below.

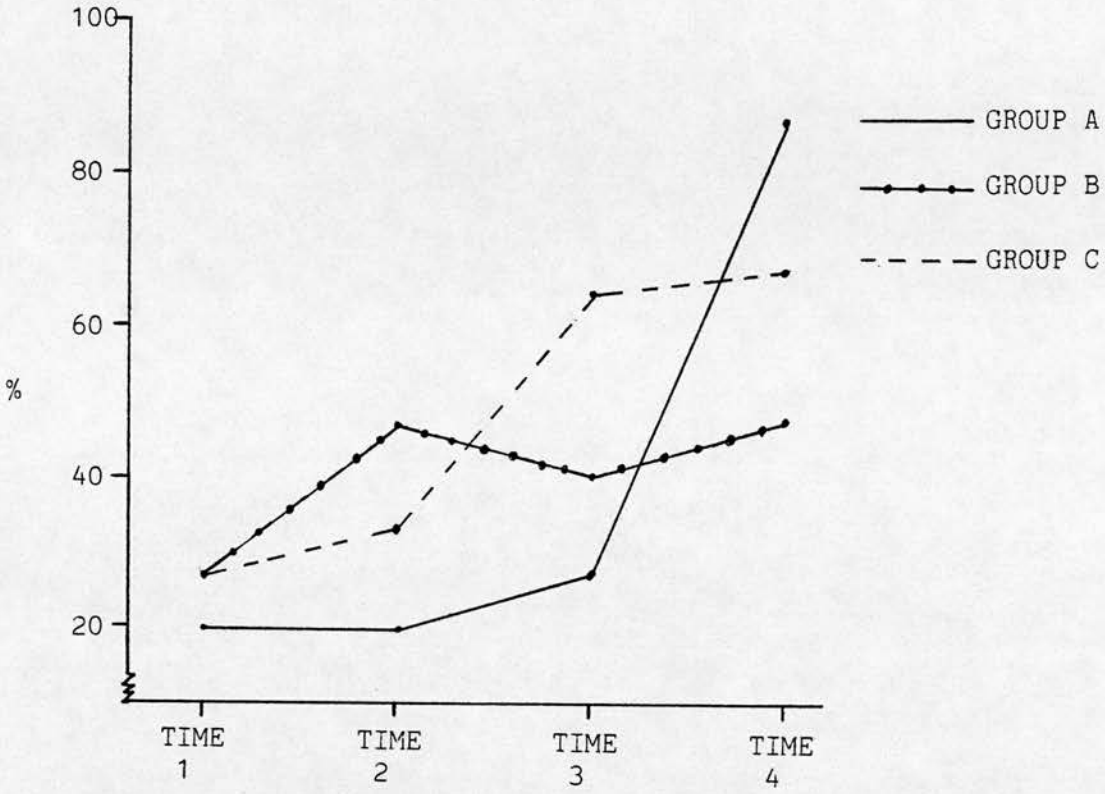


Figure 5.13 Accuracy Levels Reached By Groups In Grammaticality Judgement Tasks.

Although the general pattern is one in which each group is portrayed making progress towards the acquisition mark, there are notable differences. The greatest amount of variability seems to have occurred between Time 3 and 4. Notable here is the acquisition pattern for Group A who showed the lowest acquisition scores between the first three test times. The Group is also portrayed as making the slowest progress but the group made the most rapid development after Time 3 so as to reach 86.7% which is the highest score. The Group is regarded as 'acquired' but the other two groups are far below the criterion mark for acquisition. The curves also show that the acquisition of a target structure is not always in a smooth progression. For instance, Group A made no progress between Time 1 and 2, and the acquisition score for Group B dropped from 46.7% to 40% between Time 2 and 3.

A redistribution of the errors over time resulted in the following: 34 errors (32.7%) at Time 1, and the number of errors at the subsequent test times were 30 errors (28.9%), 25 errors (24.0%) and 15 errors (14.4%). The results of a Chi Square test which we carried out are χ^2 = 7.769. This is below the critical value of χ^2 = 7.81, df = 3, $p < 0.05$. Since the value we obtained is close to the critical value we cannot make any claim on the basis of these results. What is important is that learners' movement along the Time scale is evidently in the direction of the target language norm. Since the maximum score for correctness would have been 45 at each of Time 1, 2 and 4; and 42 at Time 3; we can use the scores of error which we have presented to calculate the accuracy level reached by groups located at the different points in time. Thus learners located at Time 1 reached 24.4%, those at Time 2 reached 33.3% and those at Time 3 and 4 reached 40.5%, and 66.7% respectively. The three groups combined did not reach the 80% criterion which we set for 'acquired'.

5.5:3 Performance Within '*Write Out Correct Forms*' Type Tasks

The learners were provided with nouns in their singular forms. The instructions read that the gaps in the tasks had to be filled with suitable forms of the words in brackets. We expected that learners would use contextual clues which would have made them know that the gaps required plural forms of the target nouns. Three such task were set: Appendix A_2 items 12, 14, and 18. The three tasks proved to be fairly easy. Consequently they provoked 22 errors only. Whether this suggests that the functor is easy to acquire remains to be proved after all the results are considered and comparisons made between the six target structures which we are investigating. The interlanguage forms which we collected are included in the sample presented in Appendix H.

The twenty two errors were distributed as follows: ten errors (45.5%) at Time 1, seven errors (31.8%) at Time 2, four errors (18.2%) at Time 3 and only one error (4.6%) at Time 4.

An analysis of the interlanguage forms showed that three different IL rules were used. These are: [Noun + s = 11] > [Noun + es = 4] > [Noun + -Ø = 2].

These rules reveal the types of hypotheses learners form in relation to irregular plural. The largest proportion of the errors reveals that the suffix -s was regularised in contexts which do not regularly take -s as a marker of plurality. The second and third IL rules have fairly low frequencies and we can assume that learners tested them and dropped them because they do not appear plausible in relation to the targets. It is important to note that learners might use *enemys* and *childs* but do not use *enemyes* and *childes*. This means that learners may overgeneralize the suffix -s and not *-es* in specific contexts. We can assume that they do so because of the evidence which they get in the process of acquiring the TL. The other five IL forms do not conform to any of the categories we have above. They are: *He had much _____(1), Most leafing_____(2), Most leaved_____(1) and Most leav_____(1).* These figures refer to the frequency of each IL form. The incompleteness of each IL form makes us conclude that they are evidence for *message abandonment* which falls under the general strategy of avoidance. (Palmberg 1979:56).

5.5:4 Performance Within Transformation Type Tasks

We set two singular-to-plural transformation type tasks to elicit further information about learners' IL ability in marking irregular plural. These tasks - Appendix A_3 items 17 and 20 - had three obligatory contexts for this functor.

5.5:4 .1 IL Structures Based On Transformation Type Tasks

The learners made 58 errors in all. One salient characteristic of the interlanguage is learners' failure to change the forms of certain verbs

so as to agree in number with specific target nouns. For instance: *childrens suffers.....,Loaves of bread was.....etc.* This type of error reflects that learners have not acquired the grammatical rules of concord.

A summary of the interlanguage forms which learners used are presented below.

INTERLANGUAGE FORMS	GROUP A	GROUP B	GROUP C
...child suffers...,...loaf of....	5	1	1
...childs suffers...,...loafs of bread	8	4	10
...childrens suffers	3	1	1

Table 5.X IL Forms Used In Relation To Irregular Plural. Based On Tasks In Section 5.5:4 [Time Held Constant]

The data in this table has further evidence which supports the view we expressed earlier, that subjects relied on the strategy of overgeneralization in marking plurality with the suffix -s. The five subjects who used *double-plural marking* might have assumed that the target noun *children* is in its singular form and that this noun requires the suffix -s for its plural form. If our assumption is correct then we have 27 frequencies which are evidence for morphological regularisation of -s.

It is also important to note that although the IL forms are unevenly distributed among the three groups, at least the three groups share similar interlanguage structures.

Although our interest is how irregular plural is marked, we report a few interlanguage structures which did not yield evidence for the target plural. We report them because they are part of the IL data which we elicited from learners; and more importantly they yield evidence for other strategies which learners might resort to. Two responses: the first is *Yes* and the other is *No* were made in relation to Task 1 and 2 respectively. These might be taken as evidence for learners' misunderstanding of the requirement in the two tasks. Then we had two blank spaces for the linguistic contexts which would have been occupied by the target nouns *loaves* and *thieves*. These two are certainly evidence for the avoidance strategy and we might be right in claiming that learners were avoiding the notion plurality because the singular forms of the target nouns were supplied in the elicitation instrument.

The relatively few errors made by learners might be evidence which suggests that irregular plural is easy to acquire. We calculated functor scores and our results showed that Group C had reached the 80% mark at Time 1 and the other two groups reached the criterion mark at Time 2.

We shall now consider performance results in a different task type.

5.5:5 Performance Within Translation Type Tasks

Three translation type tasks were administered so as to elicit more interlanguage data in learners' acquisition of irregular plural. The following are the target translations of the tasks

i) Many people watched the competitions (Appendix A_4 item 5).

ii) Those children { are wearing / have worn } white { clothes / dresses }

(Appendix A_4 item 7).

iii) Two white people have long noses (Appendix A_4 item 8)

The three tasks provoked 17 errors only. This gives the impression that irregular plural was fairly easy and it might be one of the

functors to be acquired early. The distribution of the errors was as follows: five errors (29.4%) at Time 1, six errors (35.5%) at Time 2. four errors (23.5%) at Time 3 and only one error (5.9%) at Time 4. There was one case of message abandonment at Time 1.

If we look at these scores in terms of the types of interlanguage structures which they represent we find that thirteen errors (76.5%) were in the form *(Noun + plural) + s*. This is double plural marking. Then we have one error (5.9%) in the form *Noun + -s* and two other errors (11.8%) in the form *Noun + Ø*. The relative use of these interlanguage forms declined over time. This is evidence to support the view that learners' movement over time involves the eradication of non-target forms and we can assume that the target language norm is gradually acquired. The IL rule *Noun + s* is eradicated at Time 3 and the IL rule *Noun + -Ø* was near eradication at Time 4 because it has only one frequency. The frequencies of each IL form are included in the scores which we have in Appendix H.

5.5:6 Performance Within Pictorial Description Type Tasks

Besides assessing learners' performance within the controlled tasks, we assessed their IL ability within the two pictorial description type tasks - Appendix A_4 Picture 3 and 4. All the subjects except 17, created at least one obligatory context for irregular plural. We calculated group functor scores which we shall present shortly after presenting the types of structures used.

5.5:6 .1 IL Forms Based On Pictorial Description Type Tasks

The interlanguage structures did not show much variation mainly because the same structures were repeated many times. The thirty errors which we managed to get yielded three interlanguage rules which might be sequenced as follows:

[(Noun + plural) + -s = 20] > [Noun + -Ø = 7] > [Noun + -s =3]

We shall use these interlanguage rules to support the view that learners used the strategy of overgeneralization.

5.5:6

.2 Inter Group variability In Pictorial Description Type Tasks

We have noted that learners created sufficient obligatory contexts for us to calculate group functor scores. Our results are as follows:

Out of the 9 obligatory contexts created by Group A at Time 1, they got a raw score of 11 and this yields 61.1 as their functor score. The subjects in Group B created six contexts with a raw score of 6. Their functor score is therefore 50. The third group created 4 contexts with a raw score of 5 which yields 62.5.

All the three groups had 70 as their functor score at Time 2. Group A created ten contexts and their raw score was 14. The second group had a raw score of 7 obtained from five obligatory contexts and the third group created five obligatory occasions with a raw score of 7.

Learners in Group C progressed at a slightly faster rate to reach 87.5 at Time 3. Their raw score was 56 which was scored out of 32 obligatory occasions. Learners in Group B were second because they progressed to 80 at Time 3. Their functor score was obtained from the 10 contexts which they created and earned a raw score of 16. The third group, Group A progressed to reach 76.8 which was earned from 28 occasions which had a raw score of 43. A complete reversal of the ordering of these groups occurred at Time 4 with Group A emerging as the overall best. Their score was 100 and the scores for Group B and C were 98.2 and 95.2 respectively. All the three groups had therefore reached the criterion mark for acquired at Time 4.

5.5:7 Overall Functor Scores

All the task types were combined and the three point scoring system used in calculating overall functor scores for individual subjects - Appendix C_1 and also for different groups - Appendix C_2. The scores for individual learners will be used in the implicational scaling tables and those for groups are used for the purpose of finding the rank of irregular plural among the structures which are investigated.

Learners' development over time is captured in the graph below.

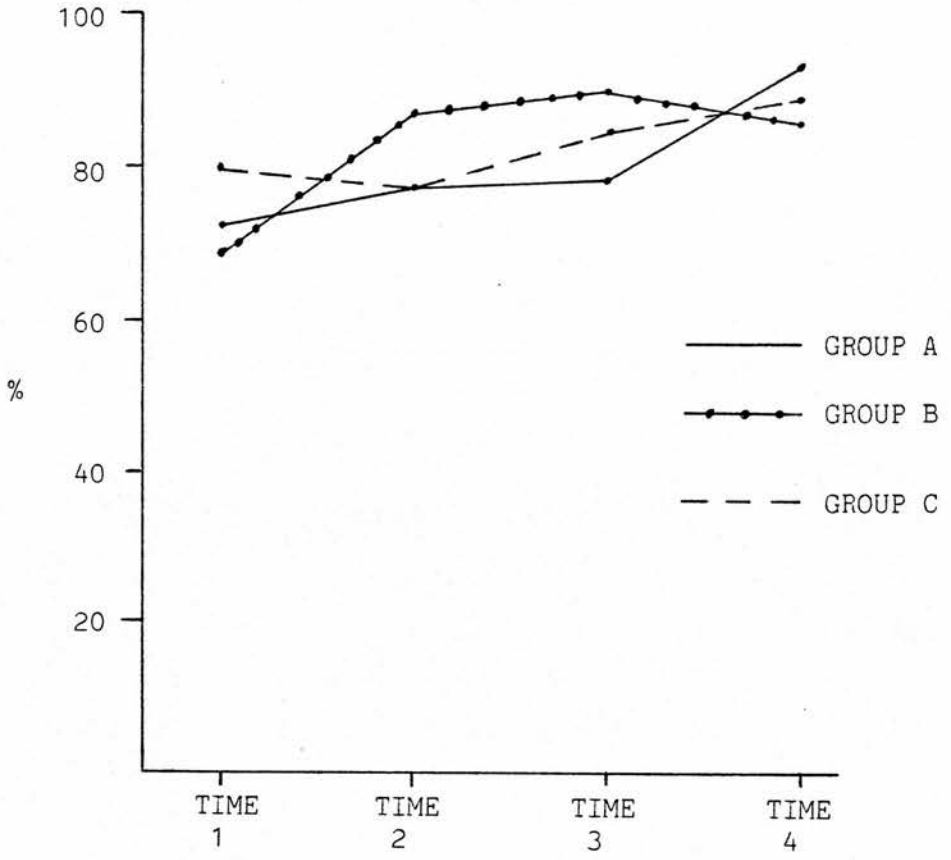


Figure 5.14 Overall Functor Scores

The pattern displayed by the three acquisition curves shows that there were minor inter group variations. The learners in Group C were already at the 80% criterion point at Time 1 but their score dropped to 76 at Time 2. The subjects in Group B made a very rapid development between Time 1 and 2 and reached 87%. They are regarded as "acquired" between

Time 2 and 4. This is in spite of the drop in their acquisition score between Time 3 and 4. The learners in Group A seem to have shown considerably less development than that shown by the other two groups between the first three test times. But they progressed very rapidly thereafter so as to reach the highest score at Time 4.

We shall briefly compare the two plural types before considering the learners' performance results in the tasks which elicited their interlanguage in negation.

5.5:8 Orders Of acquisition Between Two Types Of Plural

We have presented learners' performance results in the acquisition of regular plural in sections 5.4:0 - 5.4:6 and irregular plural in sections 5.5:0 - 5.5:6. We computed group functor scores - Appendix C_2 which might be used in finding the rank of the two types of plural. The functor scores and ranks of the two types of plural are presented in the table overleaf.

GROUP/FUNCTOR	TIME 1		TIME 2		TIME 3		TIME 4	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank
A REG.PLURAL	61	2	65	2	67	2	89	2
IRREG.PLURAL	72	1	77	1	78	1	93	1
B REG PLURAL	62	2	77	2	78	2	80	2
IRREG.PLURAL	69	1	87	1	90	1	85	1
C REG PLURAL	69	2	72	2	79	2	79	2
IRREG.PLURAL	80	1	77	1	85	1	88	1

Table 5.Y Functor Scores And Rank Of Regular And Irregular Plural

The scores for irregular plural are apparently greater than those for regular plural. Consequently irregular plural is ranked 1st and regular plural is ranked 2nd. Our interpretation of these results is that irregular plural proved to be relatively easier than regular plural. This seems to suggest that irregular plural would be acquired before regular plural.

A comparison between the rank orders (which we assume to be orders of acquisition) shows that the groups are in perfect agreement. This finding is in support of the popular view that learners from different

source languages use universal processing strategies and that it is the target language rather than the source language which guides the route of acquisition.

5.6:0 Negation

In this section we present learners' performance results in the tasks which were designed to elicit data in the acquisition of negation with the particle *not*. The elicitation tools contained 25 structurally predetermined obligatory contexts for the functor. In oder to broaden the data base on which to test our hypotheses, we elicited further IL evidence in the pictorial description tasks. We shall adopt the procedure used in presenting results in the acquisition of the preceding five structures.

5.6:1 Performance Within Grammaticality Judgement Type Tasks

Each of the four grammaticality judgement type tasks had an obligatory context for the negative functor *not*. The first three had the misformed form *no* which was to be corrected so as to read *not* . The fourth task was structured in such a way that the negator was an obligatory constituent structure between the auxiliary *could* and the copula *be* which was also the main verb in the second clause. The four tasks are: Appendix A_1 items 25, 27, and Appendix A_2 items 2 and 5.

5.6:1
.1 IL Structures Based On Grammaticality Judgement Type Tasks

The types of structures which we considered as erroneous are presented in the table below. Our analysis of the results showed that the fourth task proved to be more difficult than each of the other three. Most of the learners failed to supply the negator in the target

environment so as to have: Aux + Neg + be. We shall therefore present the interlanguage as: Aux + ØNeg + be.

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
	A	2	1	0	0
...do no know...	B	2	0	0	0
(Aux + no + MV)	C	0	1	0	0
...do know.,.do eat	A	6	5	3	2
...could be there...	B	5	8	5	3
(Aux + ØNeg + MV)	C	5	5	6	1

Table 5.Z IL Forms Based On Tasks In Section 6.6:1

A comparison between the two types of interlanguage rules reveals that the bulk of the errors are those which might be characterized as *zero - marking* of negation. The interlanguage rule *Aux + no + MV* is eradicated at Time 3 but the IL rule *Aux + ØNeg + MV* is spread to Time 4 even though its absolute frequency decreases from 16 at Time 1 to 6 at Time 4.

5.6:1

.2 Inter Group Variability In Grammaticality Judgement Tasks.

The subjects made 60 errors; 20 of them (33.3%) at each of Time 1 and 2, 14 errors (23.3%) at Time 3 and only 6 errors (10%) at Time 4. The data in Table 5.Z. show that not all the interlanguage forms are spread

across the four Test times. This is because movement over time involves the eradication of non-target forms.

Learners in Group A made 19 errors (31.7%), those in Group B and C made 23 errors (38.3%) and 18 errors (30%) respectively. A re-examination of the data in Table 5.Z also reveals that all the interlanguage structures were used by learners from the three linguistic groups. For example; learners in Group A have 16 frequencies (29.7%) of ØNeg, Group B have 21 (38.9%) and Group C have 17 frequencies (31.5%) of the same type of interlanguage form.

5.6:2 Performance Within "Gap Filling" Type Tasks

The five "gap filling" type tasks - Appendix A_2 items 19 - 23 had three syntactic gaps or blank spaces each. Out of the gaps in each task we have only one which may be filled with the negator *not* so as to make a grammatically acceptable expression. The correct gap is therefore the obligatory context for the functor. These tasks proved to be quite easy because our results showed that Group A, B and C had 78%, 72% and 70% respectively as their functor scores at Time 1 and all the three groups had reached the 80% criterion point at Time 3. These results seem to suggest that negation is also an easy structure to acquire. Some of the interlanguage forms which we noted did not yield reliable evidence of learners' ability to use the negator because some learners filled all the three gaps with the negator while others left the gaps unfilled. We shall now proceed to present results from the other task types.

5.6:3 Performance Within Transformation Type Tasks

A set of ten tasks Appendix A_3 items 1 - 10 required that the learners perform positive to negative transformations. Brief descriptions of the syntactic patterns from the tasks are presented below. These patterns will be referred to as *'Targets'* in the next

chapter. Let us focus on the specific parts of each task which were affected by the introduction of the negator.

Pattern 1

Structural Description (SD) MV + past

$$\text{Structural Change (SC)} \quad \text{do} + \begin{bmatrix} -\text{past} \\ -\text{s} \\ -\emptyset \end{bmatrix} + \text{Neg} + \text{MV} \begin{bmatrix} \text{Task 2,3 and 10} \\ \text{Task 6,7 and 9} \\ \text{Task 5} \end{bmatrix}$$

In order to perform the necessary positive to negative transformation learners needed to identify the main verb (MV) and then to effect some structural changes (SC). These included the introduction of *do* and the negator, and also shifting tense markers. Tasks 2, 3 and 10 required that *past* be shifted from the main verb to the operator *do* and Tasks 6, 7 and 9 which have tense on the main verb marked with the suffix -s required that this functor be shifted to the dummy *do*. Task 5 needed the form *do* to be introduced before the negative particle. The negative particle precedes the auxiliary which in this case is *do*.

Pattern 2

SD : be
SC : be + Neg [Task 1]

This task has *be* functioning as the main verb and the negator was therefore to be introduced after the MV.

Pattern 3

SD Question be + x + Y

SC (i) Q (be + Neg) + X + Y [Task 8]

(ii) Q be + X + Neg + Y

This task is in the form of a question. It has two possible syntactic patterns. The negator may be introduced after *be* and as it is shown in (i) above, the negator is affixed to *be* and the contracted negator is therefore preferred. The negator may also be introduced immediately before the structure Y and the uncontracted negator is used is such a syntactic string.

Pattern 4

SD Aux + MV [Task 4]

SC Aux + Neg + MV

This task required the insertion of *not* between the auxiliary (might) and the main verb. (want).

5.6:3

.1 IL Forms Based On Transformation Type Tasks.

The interlanguage structures which we elicited are presented in Appendix I. These interlanguage forms might be grouped into five syntactic patterns which we regard as constituting the interlanguage grammar.

The forms are presented in the next table.

INTERLANGUAGE FORM	GROUP A	GROUP B	GROUP C
Neg. after the MV	54 (38.3%)	42 (29.8%)	45 (31.9%)
Neg. before the MV	34 (40%)	25 (29.4%)	25 (30.6%)
Zero Neg.	1 (20%)	2 (40%)	2 (40%)
double Neg	2 (50%)	2 (50%)	0 (0%)
Question To Statement Inversion	1 (16.7%)	2 (33.3%)	3 (50%)

Table 5.2(i) Interlanguage Forms Used In The Transformation Tasks

The data which we have suggests that our subjects have not acquired the syntactic rules which restrict the negative particle in its target positions within different types of syntactic strings. Besides this the evidence suggests that learners may employ other strategies in an attempt to communicate message in the negative. We shall come back to this discussion in the next chapter.

5.6:3

.2 Inter Group Variability In Transformation Type Tasks.

The interlanguage forms in Appendix I add up to 241 errors. Group A made 92 errors (38.2%), Group B made 73 errors (30.3%) and Group C made 76 errors (31.5%). The results of a Chi Square test which we carried out yielded $X^2 = 2.6$ which is smaller that the critical $\chi^2 = 5.99$, df = 2, $p < 0.05$.

One interpretation of these results is that although Group A is seen as having been poorer than the other two groups, the differences in the

frequencies of error are not large enough for us to conclude that one group was significantly weaker than the others.

In order that we might have a clear picture of how each group was making progress over time, and how the groups differed from each other; we calculated the frequency of error made by each group at the four different test times. In the table below we show progress in terms of decreases in error from one time to another. Group A had 33 errors at Time 1 and the other two groups B and C had 26 errors and 27 errors respectively.

GROUP	TIME 1 and 2	2 and 3	3 and 4
A	-1	-11	-15
B	-9	+7	-18
C	-2	-10	-6

Table 5.Z (ii) Inter Group Variations In Progress. Figures Show The Eradication Of Error [Based On Appendix I]

The scores in this table show that the process of eradicating the non-target forms varied from one group to another. A group might eradicate a large amount of error at one time interval and eradicate only a small amount of error at another time interval. Besides this errors might increase instead of decrease over time showing that progress can be in the wrong direction. This is shown by the score for Group B between Time 2 and 3.

We calculated group functor scores and found out that Group C reached 84% at Time 3 but the other two groups A and B were 7 points and 2 points respectively below the acquisition mark. Learners in Group A

made very rapid development between Time 3 and 4 so as to reach 94% and each of Group B and C reached 87% at Time 4.

Learners at Time 1 made 86 errors (35.7%). those at Time 2, 3 and 4 made 74 errors (30.7%), 60 errors (25.9%) and 21 errors (8.7%) respectively. These errors are not evenly distributed because the results of a Chi Square test which we carried out are $\chi^2 = 39.88$ which is significantly greater than the critical $\chi^2 = 7.81$, df = 3 and $p < 0.05$. The acquisition of negation must therefore have proved to be more difficult to some groups than it was to others.

5.6:4 Performance Within Translation Type Tasks.

The target translations of the six translation type tasks are presented below.

i) The mouth of the man standing is not small - Appendix A_4 Item 2.

ii) That chair is not good, it is not big and is bent - Appendix A_4 item 3.

iii) These peoples' clothes are not dirty - Appendix A_4 item 4

iv) One of the children's shoes are not good - Appendix A_4 item 6

v) The boy who is last did not win - Appendix A_4 item 9.

Note that (ii) above has two obligatory contexts for negation. It is therefore considered as two tasks in one elicitation item.

These tasks provoked only 15 errors. It is important to point out here that several learners used positive instead of negative constructions. For example: *"The mouth of the man standing is big"* which means the same as (i) above. *"That chair is bad, it is small and is bent* which means the same as (ii) above.

Out of the 15 errors, we have 13 errors which are in the form *no* instead of *not*. Learners preferred to use: *"That chair is no good, it*

is no big.." The other two were in the form of message abondonment. The distribution of the form *no-Neg* among the three groups and the distribution of the errors over time are presented in the table below.

GROUP	TIME 1	TIME 2	TIME 3	TIME 4
A	3	3	0	0
B	3	1	0	0
C	2	1	1	1

Table 5,Z(iii) Relative Use Of no-Neg By Groups

5.6:5 Performance Within Pictorial Description Type Tasks.

All the subjects except 18 created at least one obligatory context for the functor *not* within the two short pictorial description tasks- Appendix A_4 Picture 3 and 4. It would appear that using the particle *not* proved to be quite easy because the functor scores which we calculated showed that the three groups had acquired the functor at Time 1. Their scores reached 100% at several points in time. These results suggest that negation might be among the first to be acquired.

5.6:6 Overall Functor Scores

All the structurally pre-determined contexts and those contexts which were created by individual subjects in the pictorial description tasks were scored using the three point system. This yielded functor scores for individual learners - Appendix C_1. Then we computed scores for groups - Appendix C_2.

In the figure below we present functor scores for the learners arranged according to their source language and also located at the four time levels.

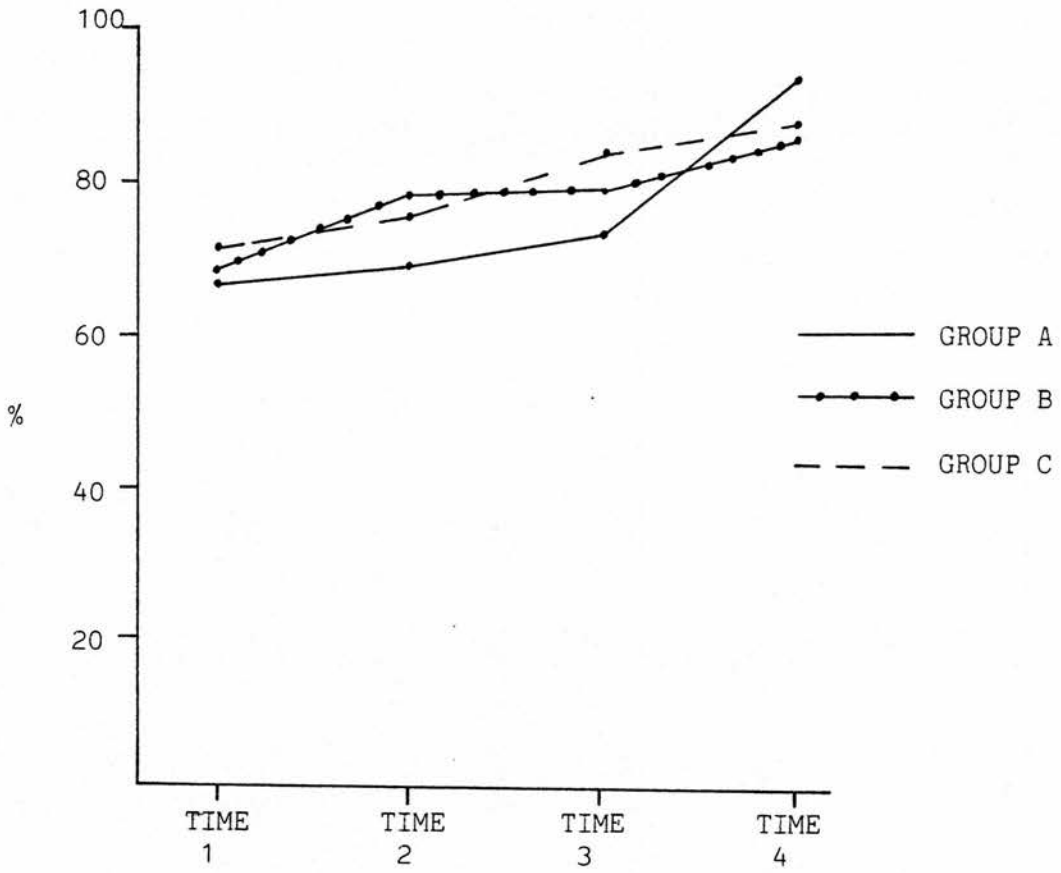


Figure 5.15 Overall Group Functor Scores In Negation

The closeness and parallellism between the three acquisition curves give the impression that the three groups were not different with regard to their proficiency levels at different test times and also with regard to the rates at which they made progress between one test time and another. There are some minor variations. For instance, Group A is portrayed as weaker than the other two groups between Time 1 and 3 but the group emerged as the overall best at Time 4. The three curves also reveal that each group was making progress towards the acquisition

mark. Group C reached the criterion point at Time 3 and the other two groups reached ≥ 80% at time 4.

We noted in chapter four that functors may be arranged according to decreasing functor scores and that the sequence yielded is interpreted as an order of acquisition. We shall now use this method and present orders of acquisition.

5.7.0 Orders Of Acquisition

The notions *'morpheme order'*, *'difficulty order'* and *'accuracy order'* are commonly used interchangeably in many interlanguage studies. Each is taken to mean the same as an order of acquisition. An order of acquisition is based on the percentage of target-like usage of specific forms in those environments where the target language requires them. Thus we calculated functor scores not simply in terms of *output* but in terms of *output where required.* Functor scores are arranged according to decreasing orders so as to yield relative orders of difficulty which in turn are regarded as orders of acquisition.

It is also important to point out here that although research in SLA has revealed that the acquisition of certain grammatical structures proceeds in a predictable order (Krashen 1982:12), the agreement on orders of acquisition among individual acquirers or groups is not always 100%. Krashen (ibid) says that we should expect clear and statistically significant similarities.

5.7:0

.1 Orders Of Acquisition Along the Dimension Of Time

We arranged all the learners along the dimension of time and computed their scores in each of the six structures. Then we ranked the structures so as to get the orders of acquisition. The scores and the ranks are presented in Appendix C_2. The results show that learners

located at different test times might have slightly different orders. We calculated coefficients of correlation and the results in the table below show that there is significant correlation in the orders of difficulty.

TIME	1	2	3	4
1	.	0.93	0.98	0.82
2	.	.	0.88	0.68
3	.	.	.	0.87

Table 5.2(iv) Values Of Rho [Based On Ranks In Appendix C_2]

All the values of rho are significant at 0.05 level but not 0.68. This means that the groups did not show significantly different orders of acquisition. In order to measure the overall degree of agreement among the four groups, we computed Kendall coefficient of concordance and our results are W = 0.896. Since this value is large we might conclude that the learners located at the four different test times are in agreement with regard to the orders of acquisition.

In order to reflect the degree of agreement and also the variations that occur with learners' movement over time, we used the group functor scores which are in Appendix C_2 to plot the graph overleaf.

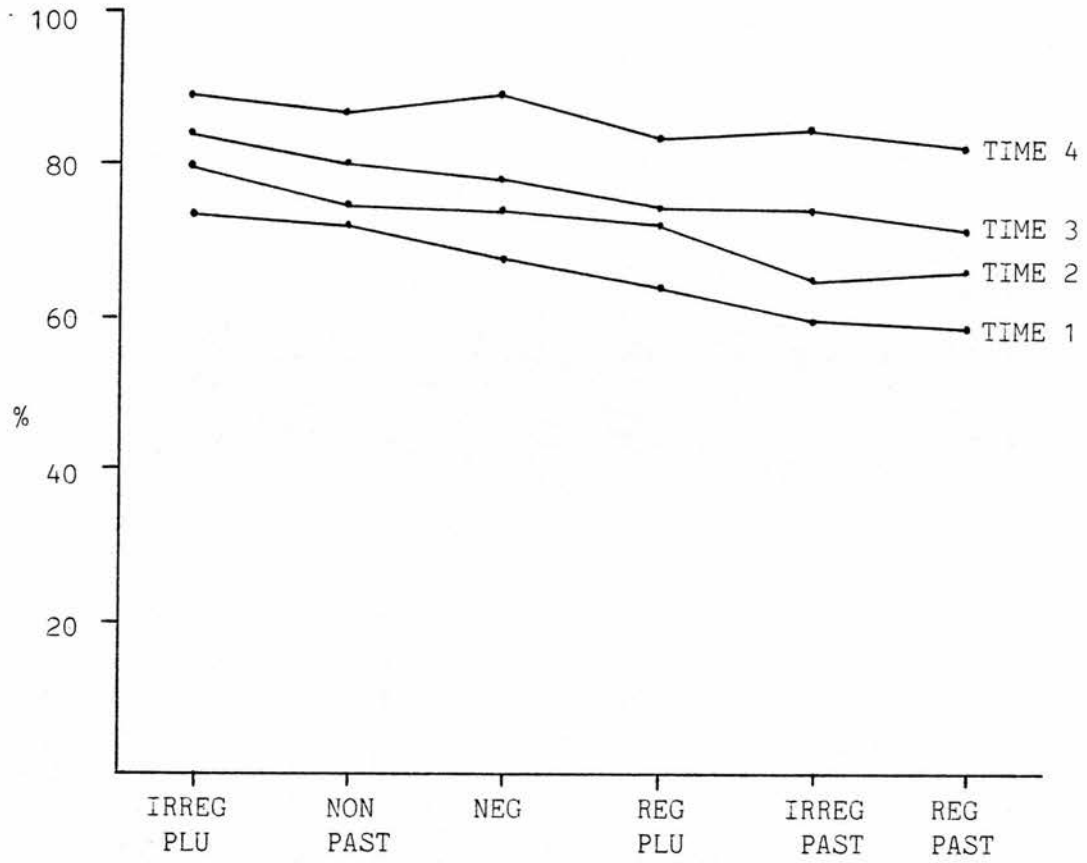


Figure 5.16 Relative Level Of Performance By Groups In Six Ordered Structures

The conclusion we can draw from the graph is that there is variability in the levels of achievement reached by groups but not in the orders of acquisition. The graph also mirrors the gradual acquisition of the structures by learners located at different test times. For instance, none of the six structures is acquired by learners located at Time 1. Their acquisition curve is below the criterion mark. But learners at Time 2 have acquired only one structure - irregular plural - which is also the easiest according to the finding in this research project. Learners at Time 3 have acquired three of the six structures and those at Time 4 have acquired all the six structures. One important finding is that Time does not seem to have significant effects on Orders of Acquisition.

5.7:0

.2 Orders Of Acquisition Along NL Background

We also assessed whether orders of acquisition are influenced by the linguistic background of a learner. The learners from each of the three source languages were grouped together and their group functor scores computed. The six structures were ranked so as to yield the orders of acquisition (Appendix C_2). The data which we have in Appendix C_2 shows that Groups A and B are in perfect agreement but Group C shows a slightly different order. We calculated the values of rho and also Kendall coefficient of concordance which are in the table below.

GROUP	A	B	C
A	.	0.98	0.93
B	.	.	0.925

Table 5.Z (v) Values Of Rho, And Kendall's W = 0.936

These values are all significant at 0.05 level and the conclusion we draw from these results is that there is no significant L_1 effect on the orders of acquisition. We also used the scores in Appendix C_2 to plot the graph below.

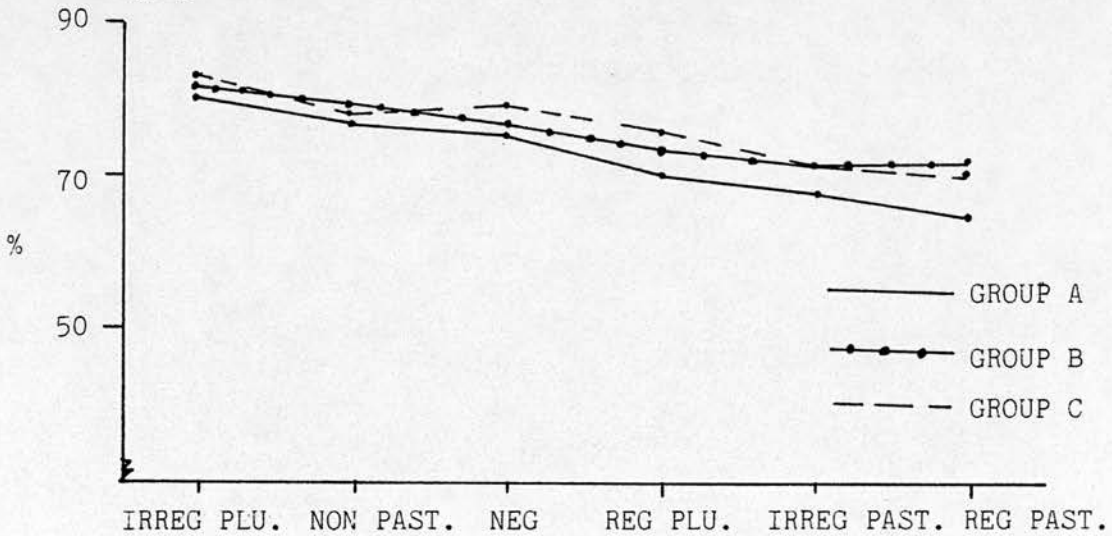


Figure 5.17 Group Relative Accuracies In Six Ordered Functors
[TIME COMBINED]

The display of the functor scores for the three groups supports the two conclusions we have drawn. First, that the three groups showed similar orders of acquisition, and secondly, the three groups experienced relatively equal degrees of difficulty in the process of acquiring the six structures.

The data in Apendix C_2 was used to assess the degree of agreement between various groups. The values of rho and Kendall's W are presented in the table below.

	GROUP			TIME			
	A	B	C	1	2	3	4
All subjects	1.0	0.98	0.933	1.0	0.933	0.98	0.817
Group A	.	0.98	0.93	1.0	0.933	0.98	0.817
B	.	.	0.925	0.983	0.983	0.95	0.767
C	.	.	.	0.933	0.867	0.917	0.917
Time 1	.	.	.	.	0.93	0.98	0.82
2	.	.	.	.	.	0.88	0.68
3	.	.	.	.	.	.	0.87

Table 5.Z (vi) **Rank Order Correlation Coefficients (rho)**
Kendall's W = 0.928

All the values of rho are significant except those which are below the critical value which is 0.886, $p < 0.05$.

The interpretation of these results is that the order of acquisition is not influenced by the source language of the learner, nor do learners

who are located at different time levels have different orders of acquisition.

Our next task is to assess whether the orders which we have established approximate ideal orders of acquisition. The technique we use here is Guttman Scalogram, which is commonly called Implicational Scaling.

5.8:0 Implicational Scaling

A researcher in language acquisition might adopt the methodological procedures outlined in *performance analysis* (Faerch et al (eds) 1984: 277) and establish orders of acquisition. Researchers use an arbitrary percentage as the criterion for acquisition. We chose 80% as our 'cut off' mark for acquisition. Scores below 80 will be represented with 0, which is to be interpreted as *Not Acquired*, and scores that range from 80 to 100 will be represented with 1 which means *Acquired*.

5.8:0

.1 Implicational Scaling Along The Dimension of Time

All the learners at each test time are regarded as one group. The functor scores for each subject in the six structures are in Appendix C_1 and the implicational tables for Time 1, Time 2, Time 3 and Time 4 are presented in Appendices J_1, J_2, J_3, and J_4 respectively. The data which we have in each Appendix are used for the purpose of calculating the following coefficient.

COEFFICIENTS	TIME 1	TIME 2	TIME 3	TIME 4
Coefficient of Reproducibility	0.94	0.922	0.922	0.956
Minimal Marginal Reproducibility	0.178	0.3	0.4	0.856
Percent Improvement In Reproducibility	0.766	0.622	0.522	0.100
Coefficient of Scalability	0.932	0.889	0.87	0.694

Table 5.Z (vii) Coefficients For The Implicational Tables in Appendices J_1 -J_4

The two most important coefficients are: Coefficient of Reproducibility and Coefficient of Scalability. The coefficients of reproducibility are well above the criterion (0.9) which is set by Nie et al (1975: 533). According to Hatch and Farhady (1982:181) the Coefficient of Scalability should reach 0.60. The scores which we have in the table are all above criterion point. The interpretation of these results is that the implicational tables which we have are valid representations of the functors arranged according to relative orders of difficulty.

5 .8:0

.2 Implicational Scaling Along NL Backgrounds

All the learners were regrouped according to their first language and their implicational tables presented in Appendices J_5, J_6, and J_7 for Group A, B and C respectively. Then we calculated the coeffecients which are in the table below.

COEFFICIENTS	GROUP A	GROUP B	GROUP C
Coefficient of Reproducibility	0.956	0.889	0.933
Minimal Marginal Reproducibility	0.489	0.70	0.533
Percent Improvement In Reproducibility	0.467	0.189	0.400
Coefficient of Scalability	0.914	0.63	0.67

Table 5.Z (viii) Coefficients For the Implicational Tables In Appendices J_5 - J_7

Then we treated all the 59 subjects as one group and plotted their implicational tables shown in Appendix J_8. The coefficients we calculated had the following values.

(i)	Coefficient of Reproducibility	0.912
(ii)	Minimal Marginal Reproducibility	0.441
(iii)	Percent Improvement in Reproducibility	0.471
(iv)	Coefficient of Scalability	0.843

The scores which we have for the groups arranged according to their L_1 and also all the subjects grouped together suggest that the implicational tables which we have are valid representations of the six structures in form of a continuum spreading from the less difficult to the more difficult structures.

5.8:0

.3 Conclusion

This chapter has reported on the acquisition of six structures by second language learners who are located at four different test times. We have focussed on the acquisition of morphemes as determined by their appearance in obligatory English contexts. The data seems to suggest that there is tremendous variation in the IL forms which learners use to approximate the targets. We shall focus on the interaction between the form of interlanguage and learners' movement over time and also the form of the IL and the source languages of the learners. This will be the subject of our next chapter.

CHAPTER SIX

6. Analyses And Discussions

6.0 Introduction

The objective for this chapter is to synthesize and analyse the results which are presented in Chapter Five. Our focus is on the IL grammar and IL continuum which are used for the purpose of yielding the strategies and processes which learners used in the process of acquiring the target structures.

The rationale behind this procedure is based on the proposal that linguists should study the processes and strategies which are used by L_2 learners (Corder 1967, 1974, Menyuk 1971). This view is also expressed by Ellis (1984) who says that the principal target of studies in second language development should be to *identify* and *describe* the built-in syllabus which is reflected by the errors which learners make.

6.1:0 The Acquisition Of Regular Past Tense

The form and syntax of regular past tense are described in Chapter Three - Sections 3.1:0 - 3.1:3; and the learners' results are in Chapter Five - Sections 5.1:1 - 5.1:6.

6.1:0.1 Interlanguage Grammar

The analysis of the interlanguage forms which learners used to approximate regular past tense yielded an interlanguage grammar which contains a set of IL rules. All the non-target IL forms might be captured within the following set of constituent structure rules.

Rule 1.	Regular Past Tense	→	Verb + $Affix_1$ $Affix_1$ ⇒ {-s,-ing}
Rule 2	Regular Past Tense	→	Verb + -Ø
Rule 3	Regular Past Tense	→	(Verb + past)
Rule 4	Regular Past Tense	→	(Verb + past) + $Affix_2$ $Affix_2$ ⇒ {-ed}

It is evident that the IL grammar can be captured within a system of rules. The learners' IL grammar contained a number of different rules. The first rule captures the forms which contained evidence of tense marking with two non-target variants. Some IL forms did not contain any evidence of tense marking. They are represented with our Rule 2. The third and fourth rules have one thing in common. The past tense is marked. Rule 3 represents those IL forms which have evidence of past tense marked but non-target variants of the past tense used. This will become clearer in the course of the discussion. Although $Affix_2$ is the target variant for marking regular past tense, it is evident from Rule 4 that the suffix -ed was used on verbs which have tense marked already. This leads to double-tense marking.

In order to explain the underlying systematicity and variability, we adopted the notion dynamic paradigm (Huebner 1979) and calculated the relative proportion of each IL rule. The relative proportions are presented in the IL wheel in the next figure. It is important to note that the relative proportions portray an order of preference which in turn reflects the underlying systematicity and variability in the IL grammar.

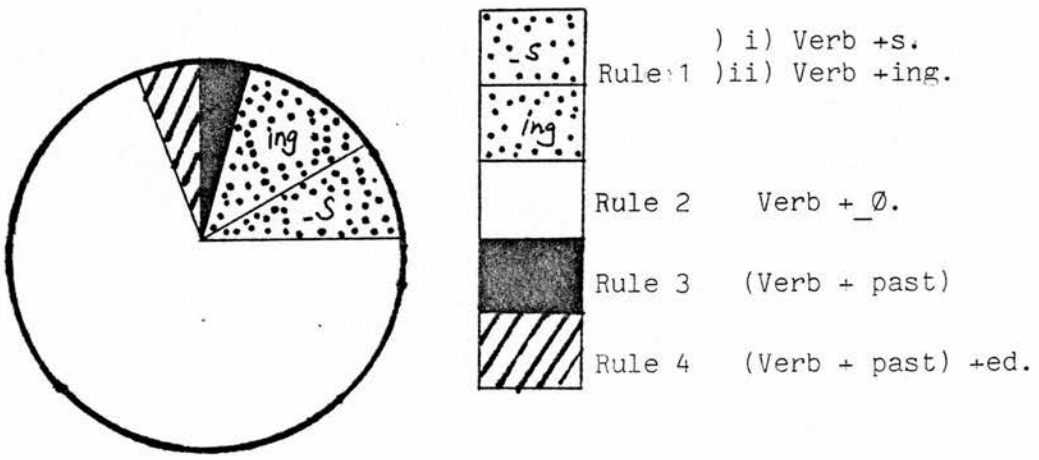


Figure 6.1 Relative Proportions Of IL Forms In Regular Past Tense. (Time And Groups Combined).

Since these IL forms were used in linguistic contexts which would have required *Verb + -ed* our interpretation is that learners applied the variable suffixes as approximative markers of regular past tense.

The IL grammar might be characterized as one which is internally consistent because learners used a specific set of suffixes on verbs. Secondly the IL grammar conforms to the morpho-syntactic rules of the TL because *tense* is marked on verbs by a system of suffixes. It is evident that the suffixes which are used are not similar to those which occur in the three NLs. We would have noticed errors of the form ***Tense + Verb*** had some of the learners used knowledge of the L_1. Thirdly, the set of suffixes in the four IL rules are identical to the suffixes which are commonly used in the TL for the purpose of marking tense or aspect. An interlanguage which evidences internal consistency is inherently systematic (Tarone, Frauenfelder and Selinker 1976, Adjemian 1976).

Although the IL forms are used in free variation, there is a hierarchy of preference which is as follows:

[Rule 2] > [Rule 1 (ing > s)] > [Rule 4] > [Rule 3]

This sequence shows that learners prefer the uninflected verbs (unmarked) than the inflected verbs (marked) and that the suffix -ing precedes -s. The order is in agreement with the sequence reported by Krashen (1981,1982), and Krashen and Terrell (1983). Lightbown (1985) says that once learners begin to produce verbs with inflections, the most frequently observed order of emergence of inflections in English is -ing before -s. But what would cause this order of emergence is still unclear. Of importance to us here is that the order which we have reported reflects a natural order of acquisition.

Besides the non-target IL forms, learners used the target language norm (Verb + -ed) and whenever they were unsure, some learners preferred to use the strategy of avoidance.

One explanation for the *double past tense marking* shown as *[(Verb + past) + ed]* is that learners assumed that a verb such as *rose* is in its non-past tense. Then using the strategy of overgeneralization, learners applied the suffix -ed. A re-analysis of the IL forms used by groups arranged according to their L_1 yielded the following sequences.

GROUP A: [V + -Ø] > [[V + -s] / [V + -ing]] > [(V + past) + -ed] > [(V + past)]

GROUP B: [V + -Ø] > [V + -ing] > [[V + -s] / [V + Past]] > [(V + past) + -ed]

GROUP C: [V + -Ø] > [V + -ing] > [[V + -s] / [(v + past) + -ed]] > [V + past]

Although there are minor variations, the three orders of preference share a lot in common. Of central importance is the fact that the *same error types* were made by learners drawn from three unrelated languages. This implies that the learners used similar cognitive processing mechanisms and that it is the form of the TL rather than that of the source language which determined how learners would process the TL. This evidence is in support of HO.1.

The data was re-arranged along the dimension of Time and the varying sequences are:

$$\text{TIME}_1 \quad [\ V + -\emptyset\ ] > [\ V + -ing\ ] > [\ (V + past)\ ] > \begin{bmatrix} [\ V + s\ ] \\ [\ (V + past) + -ed\ ] \end{bmatrix}.$$

$$\text{TIME}_2 \quad [\ V + \emptyset\ ] > [\ V + -s\ ] > \begin{bmatrix} V + -ing \\ (V + past) + ed \end{bmatrix} > [\ (V + past)\ ].$$

$$\text{TIME}_3 \quad [\ V + \emptyset\ ] \cdot \begin{bmatrix} [\ V + ing\ ] \\ [\ V + past\ ] \end{bmatrix} > \begin{bmatrix} [\ V + s\ ] \\ [\ (V + past) + -ed\ ] \end{bmatrix}.$$

$$\text{TIME}_4 \quad [\ V + \emptyset\ ] > [\ V + ing\ ] > \begin{bmatrix} [\ V + s\ ] \\ [\ V + past + ed\ ] \end{bmatrix}.$$

These sequences are strikingly similar in many respects. For instance, [V + Ø] is first at each Time level and then [V + ing] predominates as the second choice. The third choice seems to be (V + past) + -ed. We might conclude that the IL grammars for learners located at different Time levels are similar in *form* but there are important variations which can be attributed to learners' movement from time to time. We shall discuss some of the variations shortly.

We re-analysed the suffixes which we have into three categories so that we can reflect on the nature of progress.

All the learners except those located at Time 3 show the following generalized order.

[zero Tense Marking] > [+ Tense Marking / - Target Tense / - Target Tense Form] > [+ Tense Marking / + Target Tense / - Target Tense Form]

This sequence reflects the types of hypotheses which learners form and the variations that occur as the tentative hypotheses are revised. The initial hypothesis is to use verb forms without tense marking and then proceed to mark tense. The revision of the first hypothesis does not lead to the target because non-target tense forms are used. Finally the target tense is marked but non-target tense verb forms are used. The important point to note here is that learners developed their hypotheses in the direction of the target tense. This is evidence to support HO.3.

An analysis of the relative frequency of use of the IL forms showed that there is tremendous variation which results from learners' movement form Time 1 to Time 4. Learners at the lower test times show greater reliance on the rule ***Verb + Affix*** where the affix is **-Ø**. The declining reliance on this rule between Time 1 and 4 correlates with an increasing use of the same rule but the affix changes to **-ed**. This is the target form needed to mark regular past tense. In addition to these variations the data shows that the rule (Verb + past) which involves an internal morphological change in the verb is eradicated at Time 4 but it is used in the preceding test times.

Although learners located at different test times used identical IL forms, we have noted that there are important variations in the IL

grammar which are attributable to time. We cannot therefore accept HO.2.

In the foregoing discussion we have portrayed the IL grammar as internally consistent and that it changes its formal characteristics in the direction of the TL.

Central to the IL hypothesis is the view that language acquisition be seen as a developmental process. Ellis (1984) stresses the continuous pattern of development that occurs over time. This is what Huebner (1985) calls diachronic changes. Let us explore these changes in the next section.

6.1:0

.2 **Interlanguage Continuum**

The performance results were analysed along the dimension of Time and Source Language. In order to determine the direction of change, we include here a fifth rule i.e. .Verb + ed. This happens to be the target variant. The relative proportions of each rule were calculated at each point in time so as to portray both the synchronic and diachronic linguistic variations in each IL continuum. It is important to point out here that the four IL wheels which we present along the continuum for each group should not be interpreted as discrete but as snapshots on a dynamic continuum.

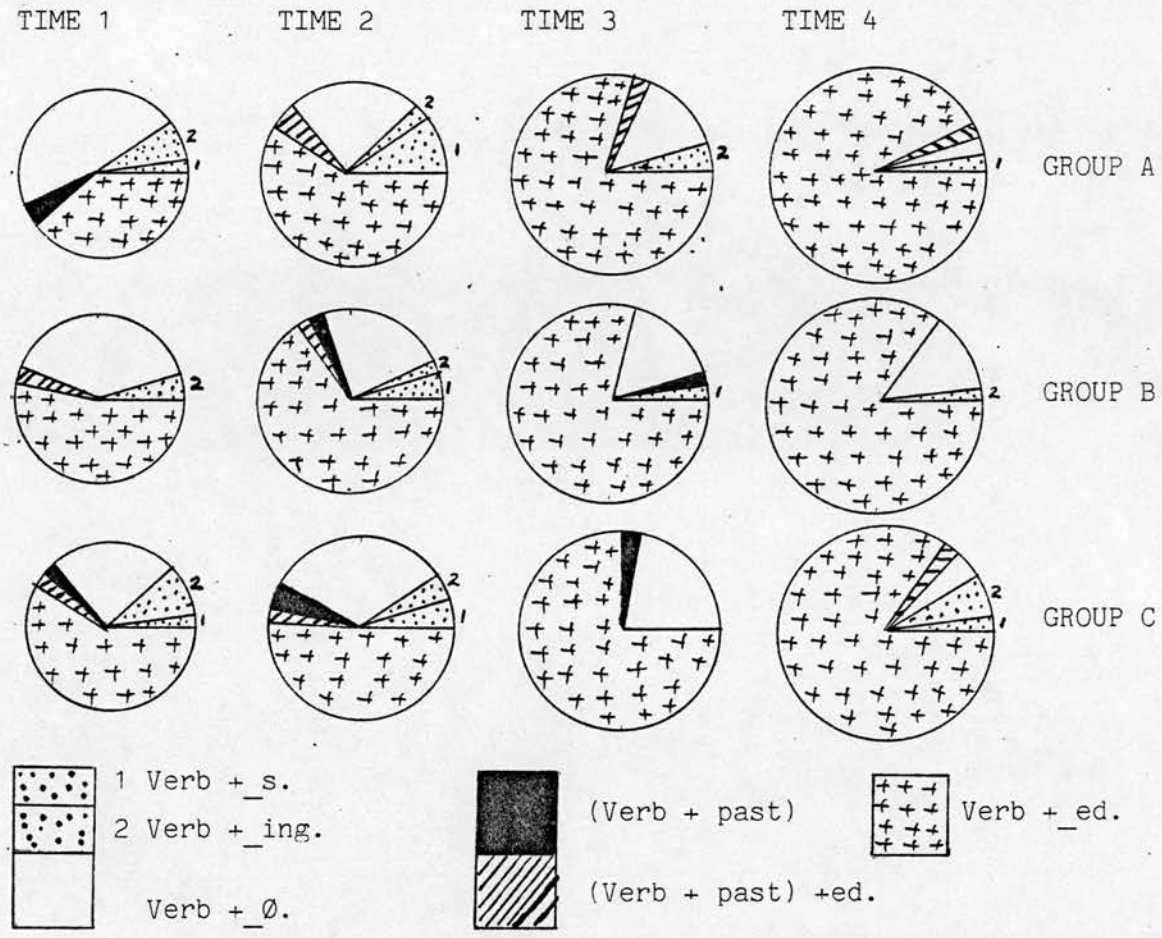


Figure 6.2 Interlanguage Continuum By Groups In The Acquisition Of The Regualar Past Tense

Each IL continuum shows that the acquisition of a specific target such as regular past tense is a systematic process of hypotheses formation, hypotheses testing and hypotheses modification. What is important to us is the degree of similarity among the continuum and also the nature of development over time. Learners used a system of non-target forms which co-occur with the target language form. Development over time is reflected by the decreasing proportion of the non-target forms and the increasing proportion of the sector representing Verb + -ed. Since this is the target we have evidence to support the hypothesis that SLA is goal-directed (Corder 1981).

This type of development is also stressed by Brown (1973), Bialystok and Smith (1985). It reflects changes in learners' knowledge of the target language such that those learners at Time 4 are viewed as having moved further towards native-speaker competence than those at any of the preceding Time levels.

Each IL Continuum contains evidence to support the hypothesis that learners backslide to an IL norm rather than to IL forms that are based on the source language or to a non-primary language which is known to the learner. For instance, the IL form Verb + -s is eradicated at Time 3 in the continuum for Group A but the form re-emerges at Time 4. Group B seems to have eradicated the IL form Verb + -ing at Time 3 but it re-surfaces at Time 4. The IL form *(Verb + past)* which was not observed at Time 1 and 4 was used at Time 2 and 3. One explanation of such a distribution of an IL form is that it might have been used and eradicated at a point in time which precedes our Time 1 on the research project and that it re-appeared at Time 2 and 3. On being tested and found inappropriate relative to the target, the rule is dropped.

The continuum for Group C also shows the re-emergence of three IL forms at Time 4. It is important to stress here that learners from different native languages regressed to similar IL forms and their development is towards a common target. Such evidence supports our HO.1, and HO.3.

The diagram above might be used for the purpose of comparing IL grammar and IL continuum for learners located at different Time levels. All the IL forms except one are observed at the four test times and the implicational order of preference at one test time is similar to the order shown at any other test time.

An analysis of the performance results showed that learners will acquire marking tense with the suffix -ed in a developmental continuum which is shown below.

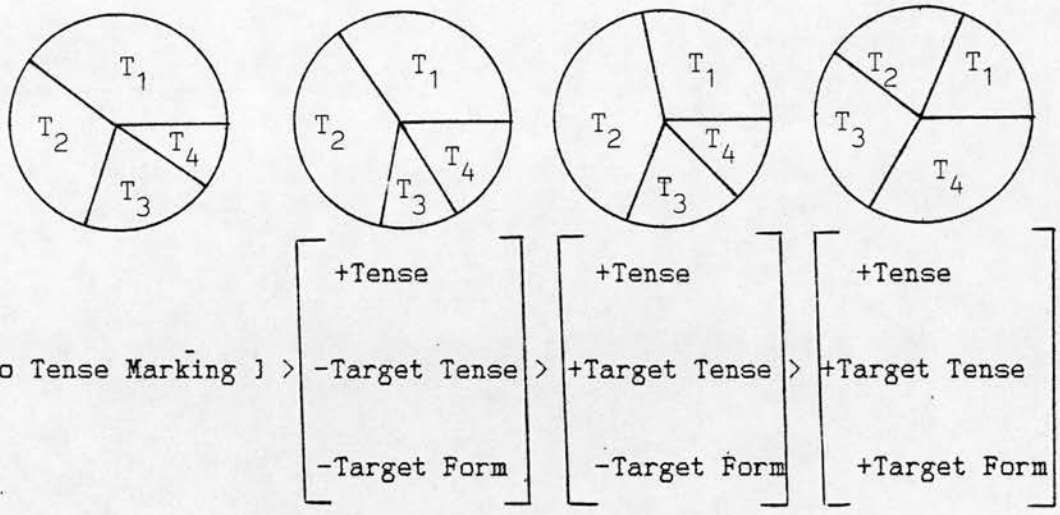


Figure 6.3 IL Continuum In The Acquisition Of Regular Past Tense

The varying proportions in the figure reveal that learners located at different points in time show greater preference for different tense marking forms. For instance, learners at Time 1 have the greatest proportion of [Zero Tense Marking] and the least proportion of

$$\begin{bmatrix} + \text{ Tense} \\ + \text{ Target Time} \\ + \text{ Target Forms} \end{bmatrix}$$

On the other hand learners at Time 4 have the least proportion of [Zero Tense Marking] and the greater proportion of $\begin{bmatrix} + \text{ Tense} \\ + \text{ Target Tense} \\ + \text{ Target Form} \end{bmatrix}$.

The varying proportions reveal that language acquisition is in the direction of the target form. The systematic variations are in support of H1.2 and HO.3.

6.1:0

.3 Relative Difficulty In The Acquisition Of Regular Past Tense

We arranged the subjects into eight groups and computed the mean Group Functor Scores. These scores were used for the purpose of ranking each structure which is studied - see Appendix C_2 (ii). We shall henceforth refer the groups in this Appendix as: *the eight groups*.

The rank of a specific structure might be used as a measure of its difficulty relative to the other structures. All the eight groups except one are in agreement because regular past tense is ranked 6th. But learners at Time 2 have regular past tense ranked 5.5. One interpretation of this finding is that regular past tense was one of the most difficult structures to acquire. In order to find out whether we could rely on scores as a predictor of relative difficulty we carried out two types of ANOVA on the scores for all the subjects in the six structures studied. The results are presented in the table below.

SOURCE	SUM OF SQUARE	DEGREES OF FREEDOM	MEAN SQUARE	F	TAIL PROB
Mean	1990144.04354	1	1990144.04354	17220.16	0.0000
Language	1105.70950	2	552.85475	4.78	0.0091
Structure	7063.06763	5	1412.61293	12.22	0.0000
Time	19155.40392	3	6385.13464	55.25	0.0000
LS	234.17950	10	23.41795	0.20	0.9960
LT	5046.24954	6	841.04159	7.28	0.0000
ST	1026.68431	15	68.44562	0.59	0.8803
LST	941.38102	30	31.37937	0.27	1.0000
Error	32590.9000	282	115.57057		

Table 6.A Results Of The Two Way ANOVA

The two way ANOVA (Table 6.A) yielded F = 12.22, df = 5. Since this value is greater than the critical F = 4.38 we concluded that some structures were relatively more difficult than others.

Our specific interests are stated in HO.4 and HO.5. We made an assumption that errors might also be used to reflect difficulties experienced by different groups. Group A made 55 errors, Group B made 49 and Group C made 54 errors. The χ^2 test which we carried out on these frequencies of error yielded χ^2 = 0.396 which is much smaller than the Critical X^2 = 5.991 with 2df at 0.050 level. The data in Appendix C_2 shows that Group A, Group B and Group C were scored 65, 72, and 71 as the mean Group Functor Scores. These differences are not large. The results of the two way ANOVA yielded F = 4.78 with 2df which is smaller than the Critical F = 19.49.

Then we carried out a General Univariate and Multivariate ANOVA and computed LIKELIHOOD RATIO (L Ratio) which is also called Wilk's statistic for testing a linear hypothesis in a multivariate linear model. The results are presented in the table below.

VARIATE	STATISTIC		P
LANGUAGE			
	s = 2 T = 6 DFH = 2, DFE = 47		
	HT EVALS = 0.07371702, 0.06347792		
	HE EVALS = 0.79583690D - 01, 0.67780486D-01		
	L RATIO = 867484. 052 12 84.00		0.8991
	TRACE = 0.147364		
	TZSQ = 6.33666		
	CHISQ = 2.46	6.498	0.9046
	s = 3 T = 6 DFH = 3, DFE = 47		
TIME	HT EVALS = 0.66054050, 012084139, 0.03607256		
	HE EVALS = 1.9458595, 0.13745119, 0.3742264D-01		
	L RATIO = 0.0287673. 3.67, 18, 119.28		0.0000
	TRACE = 2.12073		
	TZSQ = 93.3123		
	CHISQ = 51.37	9.13	0.0000
	MXROOT = 0.660540		0.0000

Table 6.B Results Of General Univariate And Multivariate ANOVA

The results in the table show that L RATIO p = 0.8991. This value is not small, in fact it is much greater than the Critical p = 0.05. The interpretation of these results is that there were no significant L_1 effects on the scores. This is evidence to support HO.4.

But learners located at different Time levels seem to have experienced unequal degrees of relative difficulty in acquiring regular past tense. The learners at Time 1, 2, 3 and 4 made 59 errors, 53 errors, 28 errors and 18 errors respectively. The χ^2 test carried out on these frequencies of error yielded $\chi^2 = 29.3$ which is much greater than the Critical $X^2 = 7.8$ with 3df at 0.05 level. The mean Functor Scores were: 58, 66, 71 and 82 for learners at Time 1, 2, 3 and 4 respectively. The results of the two types of ANOVA which we carried out yielded evidence to support the view that there was significant effect of Time on the scores. We obtained F = 55.25 (Table 6.A) which is significantly larger than the Critical F = 8.54 with 3df. Furthermore the results presented in Table 6.B show that L Ratio p = 0.0000 which is much smaller than the critical value p = 0.05. The interpretation of these results is that there was in fact significant Time effect on scores. We cannot therefore accept HO.5.

6.2:0 The Acquisition Of Irregular Past Tense

The learners' performance results are in Chapter Five - Sections 5.2:0 - 5.2:6.

6.2:0

.1 Interlanguage Grammar

The irregular past tense is unlike regular past tense because whereas the latter has one morpho-syntactic form i.e. -ed, the former does not. Targets would therefore vary according to the form of the verb. A few examples might illustrate this.

Target 1 (Verb + past) - were

Our analysis of learners' responses to the task which required this target showed the following IL forms:

[(Verb + past)] > [Aux + Ø + Verb + -en] > [Verb + Ø]

Target 2 (Verb + past) - had

The three different non-target forms which were used to approximate this target are:

$$\begin{bmatrix} \text{(Aux + nonpast) + V + ing} \\ \text{(Aux + past) + V + ing} \end{bmatrix} > \text{[Verb + -Ø]}$$

Target 3 Aux + (Verb + past) - used meant

The word *used* was supplied as an auxiliary structure in *The word he used meant*. Although learners were supplied with this auxiliary in the elicitation instruments some learners introduced a non-past tense form of *be*. Two general IL forms were used to approximate Target 3. They are:

[Aux_1 + (Aux_2 + past) + Verb + ing]>[Aux_1 + (Aux_2 + -Ø) + V + -ing]

Target 4 (Verb + past) - sought

Most of the errors made in relation to this target show that learners overgeneralized that -ed is the universal past tense marker. The three IL forms used might be sequenced as follows:

[Verb + ed] > [(Verb + past) + ed] > [Verb +Ø]

These few illustrations show that the IL grammar varies according to the target verb. We can however use two broad constituent structure rules to capture the IL grammar.

Rule 1. Irregular Past - (Verb + past) + ($-Affix_1$).

The affix in this linguistic context is an optional -ed.

Rule 2. Irregular Past - (Verb + $-Affix_2$).

The affix in this context is obligatory and is one of the following {-Ø, -ing, -s, -ed}.

All the affixes in Rule 2 except -ed cannot be used in the context of Rule 1 so we cannot expect structures such as (Verb + past) + $Affix_2$.

One of our key interests in the research project is to try and capture the nature of the IL system. In order to achieve this goal we divided the IL grammar into two patterns. The first pattern is one which contains the target tense marked but non-target verb forms used. The second pattern contains IL forms which do not have the target tense marked. The IL grammar in each pattern contains a set of three IL forms which are hierarchically ordered as follows:

Pattern 1 $\begin{bmatrix} + \text{ Target Tense} \\ - \text{ Target Tense Verb Forms} \end{bmatrix}$

[Verb + -ed] > [(Verb + past)] > [(Verb + past) + -ed]

Pattern 2 $\begin{bmatrix} - \text{ Target Tense} \\ - \text{ Target Tense Verb Forms} \end{bmatrix}$

[Verb + -Ø] > [Verb + -ing] > [Verb +-s]

An explanation for the sequence in Pattern 1 is that learners used the strategy of overgeneralization. The suffix -ed is taken to be the

universal marker of past tense. The IL form (Verb + past) is erroneous because some learners failed to perform the necessary transformations on some verbs so as to arrive at the target verb forms. Consequently the IL grammar contained morphologically inappropriate verb forms such as ***was*** instead of ***were***. It appears that learners hypothesize that such verbs as *sought* are in their non-past tense forms. Then they overgeneralize that the suffix -ed is the universal marker of past tense. This leads to double past tense marking.

One explanation for the sequence in Pattern 2 might be found in the markedness hypothesis (Rutherford 1982, Hyltenstam 1982, Mazurkewich 1985, White 1983, Zobl 1983,1985). The hypothesis states that a learner's developmental path is from the less marked to the more marked. This explains why *Verb +-Ø* is preferred before the other two marked suffixes. We also noted that Lightbown (1985) says that the suffix -ing emerges before the suffix -s.

It is apparent that these sequences are not the result of random acts. They reveal that SLA is a highly systematic process in which learners creatively form hypotheses about a target language. Since the hypotheses formed by learners might be erroneous relative to a specific TL norm they are constantly revised as learners get more input. But the revision of one hypothesis does not necessarily lead to the target. Consequently learners might develop through a succession of hypotheses.

We held Time constant and re-analysed the data so as to assess whether the native languages had any effects on the IL grammar. The results are in the figure below.

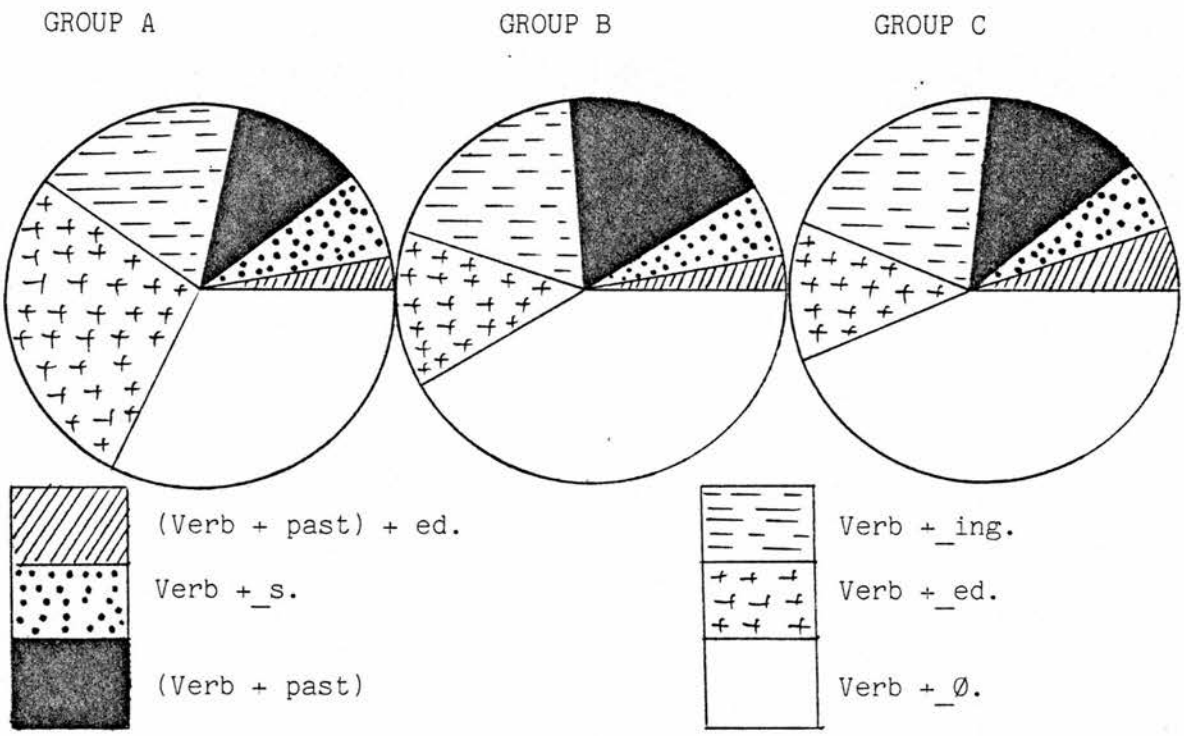


Figure 6.4 Interlanguage Grammar In Irregular Past Tense By Groups [Time Combined]

The impression one gets from these IL profiles is that the source languages did not affect the IL grammar. Learners drawn from different source languages used a similar set of IL rules for the purpose of representing irregular past tense. Group A and Group C are in perfect agreement with regard to the sequence of preference but the third group showed a slightly different order.

The 3 Groups: [V + Ø] > [V + ing] > [V + s]

Group A and Group C: [V + ed] > [(V + past)] > [(V + past) + ed]

Group B only [(V + past)] > [V + ed] > [(V + past) + ed]

This minor difference does not constitute sufficient evidence for us to reject the hypothesis that learners drawn from different native languages will show similar IL grammar in acquiring irregular past tense.

Although Figure 6.5 is meant to portray the IL continuum, it can as well be used for the purpose of comparing IL grammar used by learners located at different Time levels. All the IL forms are distributed at the four test times but their absolute frequencies decrease over Time. For instance, the frequency score for Rule 1 drops from 6 to 3 and that of Rule 2 drops from 112 to 42. Another aspect of variation is in the changing orders of preference.

In order to capture the variations in the orders of preference we re-arranged all the IL forms into 3 groups viz:-

i) ***Verb + past*** - this represents all the IL forms which contain past tense. It represents the IL grammar in Rule 1 and the affix -ed in Rule 2.

ii) ***Verb + non past*** - this represents all the IL forms which contain tense marking but the tense is not *past*. The affixes in Rule 2 except {-Ø} fall in this group.

iii) ***Verb + -Ø*** - this represents the forms which do not show any tense marking.

An analysis of the IL grammar of the learners located at the four test times showed the following orders of perference.

Time 1 and 2 [Verb + -Ø] > [Verb + past] > [Verb + nonpast]

Time 3 [Verb + past] > [Verb + Ø] > [Verb + nonpast]

Time 4 [Verb + past] > [Verb + nonpast] > [Verb + Ø]

These patterns are evidence to support the view that there is tremendous variation in the IL grammar and these variations are attributed to the effect of learners' movement from Time 1 to 4. The grammar of leaners at the lower test times will contain more verbs without any tense marking but verbs with tense marking will be frequent in the IL grammar of learners at the upper time limit. Such variations do not seem to support HO.2.

Next in our concern is to portray the linguistic variations which occurred over time within the IL continuum for different groups.

6.2:0

.2 Interlanguage Continuum

A developmental continuum might be presented in such a way as to portray the linguistic variations that occur at a particular point in time and those variations that take place along a time scale. In order to capture those two types of variations we adopted the method devised by Cazden et al (1975) also cited in Ellis (1984), and used by Huebner (1979). We catalogued the various IL forms used to approximate irregular past tense and then calculated the relative proportion of each form at separate data collection points. The relative use of the target tense is also included in each IL profile.

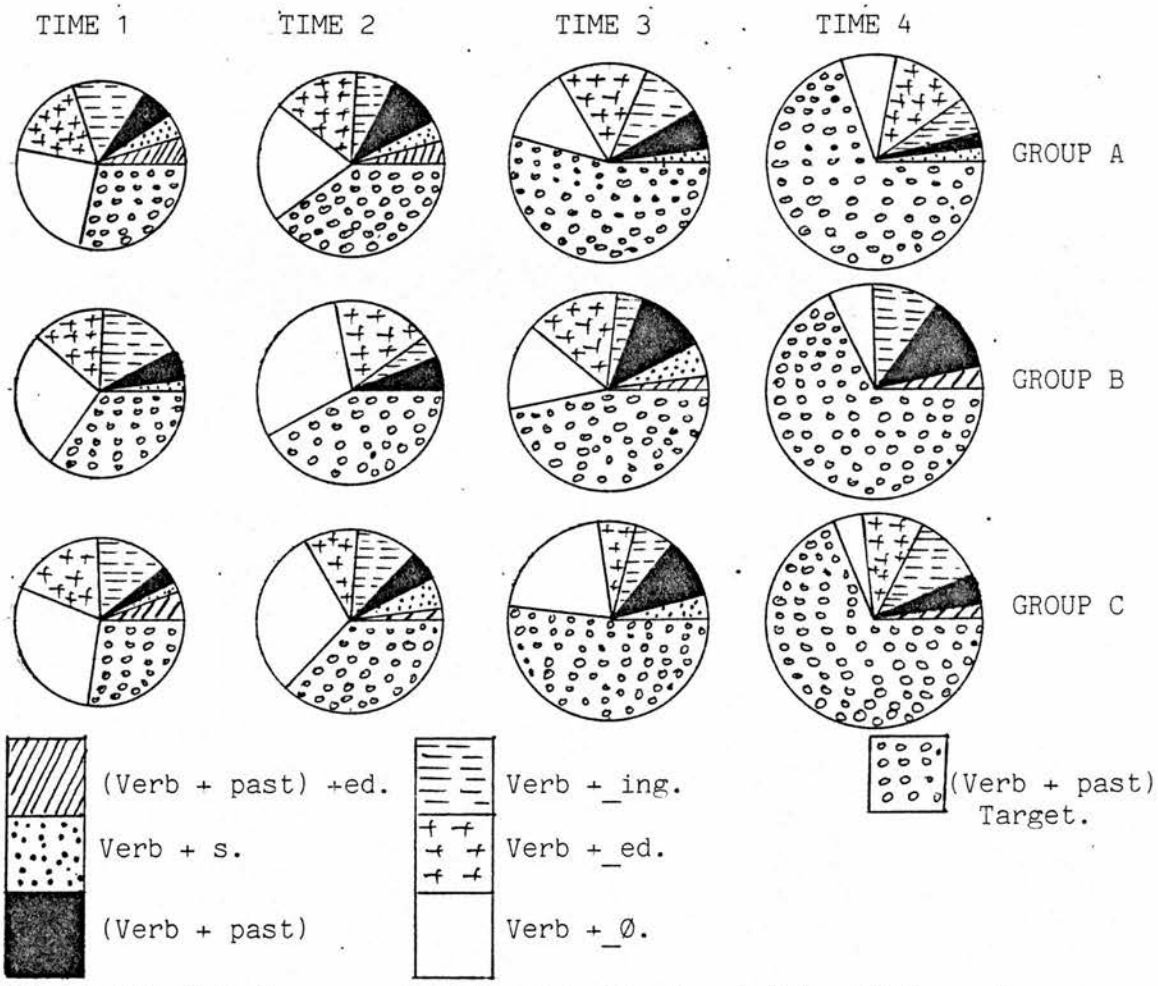


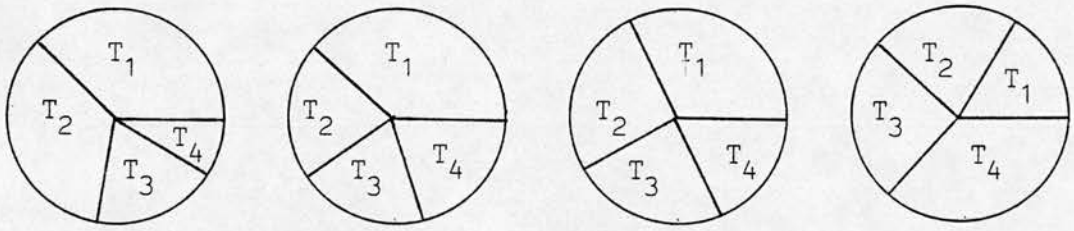
Figure 6.5 Interlanguage Continua In The Acquisition Of Irregular Past Tense.

The three IL continua have a lot in common. In general the continua reveal that second language learners might have conflicting rules for performing the same function but some variations occur between one group and the other. For instance, the IL form *(Verb + past) + ed* is used at Time 1 and 2 by Group A and Group C, afterwhich it is eradicated. It re-emerges at Time 4 in the continuum for Group C. The same IL form is not used until Time 3 and 4 by Group B.

Although there are differences between groups, the similarities outweigh the differences. For example, the most dominant non-target

form along each continuum is *Verb + -Ø* and the least dominant non-target form is *(Verb + past) + ed*. Secondly each continuum mirrors increasing dominance of *Verb + Irregular Past* which happens to be the target. This shifting pattern supports the hypothesis that an IL continuum is systematically variable and directed toward a TL norm. The commonalities in the three continuum support our HO.1.

But the shifting orders of preference which we presented in the section above are evidence that the IL continuum shows considerable variation which correlates with learners' movement over time. In order to capture some of the variations, we calculated relative proportions of each IL rule as shown in the figure below.



Verb + Ø. Verb + non-past. Verb + past. Verb + Target Past.

Figure 6.6 Relative Use Of IL Forms By Groups

It is evident that the continuum for the learners at the upper Time levels will be more marked than the continuum for the learners at the lower Time levels. Besides this the continuum for learners at the lower points in time will be less target-like than the continuum for learners at the upper points in time. Since the evidence is in support of H1.2 we cannot accept HO.2

The sequences which we have presented are evidence to support HO.3 because learners are portrayed as making progress from the less target-like forms to target-like forms. The developmental continuum is therefore goal-directed.

6.2:0

.3 Relative Difficulty In The Acquisition Of Irregular Past Tense

We begin by focussing on how relatively difficult irregular past tense proved to be compared with the other structures studied. The measure we use is its rank among the six structures. The learners were arranged into the eight groups and their mean Group Functor Scores computed. These scores were used for the purpose of ranking the functors. Most of the eight groups in Appendix C_2 (ii) have the functor ranked 5th but learners at Time 2, 3 and 4 have the structure ranked 6th, 4.5 and 4th respectively.

One conclusion we can draw from the rank of the functor is that irregular past tense was one of the most difficult structures to acquire.

The ANOVA results which are quoted in section 6.1:0.3 confirmed that some structures proved to be more difficult than others.

Our more specific concerns are stated in HO.4 and HO.5. We adopted the suggestion put forth by Faerch et al (1984) that one method of quantifying results within performance analysis is to calculate the frequency of occurrence in data of specific forms. In our case we calculated the errors made by Group A, Group B and Group C and found out that they made 115, 109 and 109 errors respectively. The results of a X^2 test showed that the differences in these frequencies are not large enough for us to reject HO.4. Furthermore learners in Group A, Group B and Group C obtained 68, 72 and 72 respectively as their mean Group Functor Scores. The results of ANOVA cited in Section 6.1:0.3 above confirmed that there was no significant language effect on the scores. Further supportive evidence was obtained in the results of the multivariate ANOVA which yielded L RATIO p = 0.8991. This value is much greater than the Critical p = 0.05. All this evidence supports the view that none of the three groups had cross linguistic facilitative advantages over the other groups. We cannot therefore reject HO.4.

But learners located at different Time levels seem to have experienced unequal degrees of relative difficulty. Those at Time 1, 2, 3 and 4 made 126, 102, 76 and 50 errors respectively. The results of our Chi square test were χ^2 = 36.46 which is greater than the Critical value of χ^2 = 7.8 with 3df at 0.05 level. The learners at the four test times were scored 59, 65, 74, and 85 respectively as their mean Group Functor Scores. The results of the two types of ANOVA cited in Section 6.1:0.3 supported the hypothesis that there were significantly large variations in the scores and that these variations depended on Time. We cannot therefore accept our HO.5.

6.3:0 The Acquisition Of Non Past Tense

The learners' performance results are in Chapter Five - Sections 5.3:0 - 5.3:7.

6.3:0

.1 Interlanguage Grammar

The non-past tense is a broad cover term which represents the traditional grammarians' simple present tense, the future tense, the present progressive, the present perfect, the future perfect etc. (Young 1980:171, Leech 1971:5, Schibsbye 1965:70, Leech and Svartvik 1975:64). It is therefore difficult to state one target rule. A structural analysis of the tasks which were set to test learners' knowledge of non-past tense showed that we might focus on how four different target forms were being approximated. This approach is proposed by Rogers (1982) who says that errors should be discussed against the background of which rule is being broken and how it is being broken.

Each target attracted a system of IL forms which are hierarchically sequenced as follows:

Target

Verb + -s: [Verb + -Ø] > [Verb + -ed] > [Verb + -ing]

Verb + -Ø: [Verb + -s]>[Verb + -ed]>[(Verb + past)]>[Verb + -ing]

Verb + -ing: [Verb + -Ø] > [Verb + -ed] > [Verb + -s]

Aux + -s: [(Aux + past)] > [Aux = Ø] > [Aux + -Ø]

The first three targets might be treated as one group because the inflections to mark tense are affixed to lexical verbs. A comparison between the specific nature of the sequences reveals that the linguistic variations that occur in SLA are non-random but highly regular in character. When faced with the task of marking non-past tense with either the suffix -s or -ing but with insufficient knowledge, learners use the uninflected verb forms. The second hypothesis leads to Verb + -ed which happens to be non-target because the suffix -ed is used to mark regular past tense but not nonpast tense. The learners proceed to mark the target tense but use non-target verb forms. This is evidence to support that SLA is a systematically variable process which is in the direction of the TL norm.

A few tasks required the introduction of either *be* or the dummy *do* and as a rule, it is the auxiliary which carries tense. A set of approximative forms were used to represent the suffix -s. One interesting finding with regard to the two auxiliaries is that *be* was frequently substituted for *do*. Such substitution seems to be similar to the confusion between *be* and *have* which is reported in many IL studies (Lightbown 1985). Learners seem to find marking non past tense on *be* easier than on *do*.

The insight we gain from these systematic substitutions is that learners will frequently compensate for their insufficient knowledge of a set of related target language forms by using specific TL forms in

non-obligatory contexts. What such learners need to acquire are the morpho-syntactic rules which restrict each TL form to specific linguistic contexts.

In order to make comparisons in the linguistic variability which was observed among different groups we reclassified all the IL forms into three categories.

The first category [- Tense; - Target Forms] includes all the IL forms which do not show evidence of any tense marking.

The second category is [+ Tense marking; - Target Tense.; - Target Forms]. This includes the IL forms which contain tense marking but the tense is not non-past tense. Consequently non-target tense forms are used. The third category is

[+ Tense Marking; + Target Tense.; - Target Tense forms]. This category represents the IL forms which contain target tense but non-target tense forms are used. The three broad categories were observed among the subjects arranged according to their first language. But the broad categories conceal a few minor variations. For example, the IL forms *Verb + ing* and *(Verb + past)* are the only forms which were not used at Time 3 and 4 respectively by subjects in Group C. Although all the other IL forms are observed among the three groups there were variations in frequencies. The evidence which we have supports the hypothesis that the IL grammar will not be

dependent on the source language of a learner. We cannot therefore reject HO.1.

The three IL categories are distributed at the four test times but there are some notable variations. The first two IL categories decrease sharply between Time 1 and 4 and the third category increases between Time 1 and 2 and then it takes a declining trend between Time 3 and 4. The order of preference might therefore be presented as follows:-

Time 1 and 2 [+ Tense marking, - Target Tense, - Target Tense Form] > [- Tense, - Target Tense] > [+ Tense Marking, + Target Tense, - Target Tense Form]

Time 3 [+Tense, -Target Tense, -Target Tense Form] > [+Tense Marking, +Target Tense, -Target Tense Form] > [-Tense Marking, -Target Tense Form]

Time 4 [+ Tense Marking, + Target Tense, - Target Tense Form] > [- Tense Marking, - Target Tense Form] > [+ Tense Marking, - Target Tense, - Target Tense Form]

These variations in the orders of preference suggest that the IL grammar will vary according to the learners' location in time. It is evident that the grammar of the learners at Time 4 is more target-like than the grammar shown by learners at each of the preceding test times. We cannot therefore accept HO.2.

Let us now focus on the 1L continuum.

6.3:0

.2 **Interlanguage Continuum**

We shall focus very briefly on the linguistic variations that occurred in relation to the four targets which are mentioned in Section 6.3:0.1 above. Then we shall use the three categories so as to compare the IL continuum for specific groups of learners. The relative proportion of each IL form was calculated and the patterns of variation are displayed in the figure below.

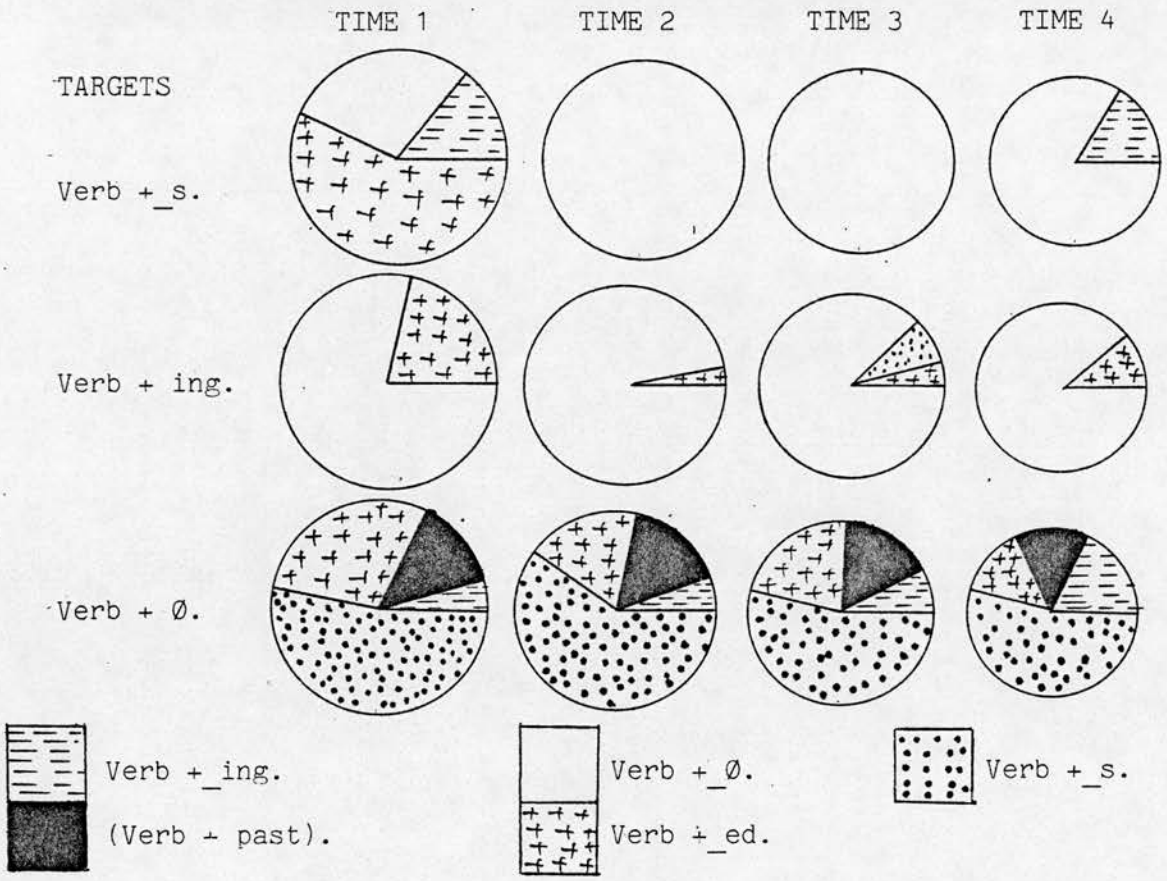


Figure 6.7 (i) Variable Verb Inflections Used To Approximate The Three Targets. [NL Disregarded]

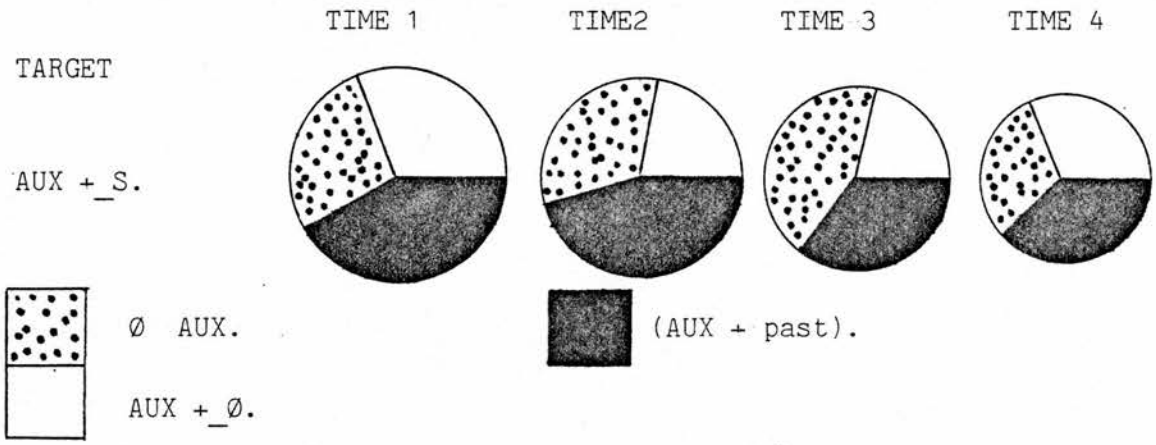


Figure 6.7 (ii) Variable Auxiliary Inflections Used To Approximate Target Aux + -s [NL Disregarded]

Each IL continuum reported here shows variable patterns in the inflections which were used to mark non-past tense. The overall impression from the continuum is that learners naturally prefer zero inflection on verbs. This is evident where the target is *Verb + s, Verb + ing* or *Aux + s.* Besides the *zero inflection* on auxiliary, the Auxiliary may be omitted altogether.

Once again the explanation for this finding might rest in the markedness theory because the uninflected IL forms and the zero-auxiliary conform to Universal Grammar (Cook 1985).

A few peculiar patterns might be noted. Learners seem to have an inclination to use *Verb + -ed* rather than either *Verb -ing* or *Verb + -Ø*

where the target is *Verb + -s*. This is the case at least at Time 1 but tremendous variations occur at Time 2 where *Verb + -ed* is eradicated in relation to the target *Verb + -s;* it is almost eradicated in relation to *Verb + -ing* but it lingers on in relation to *Verb + -Ø*. One explanation for this finding rests on the hypotheses which learners make concerning the verbal system in the TL. If a verb is taken to denote an ephemeral event which is normally repeated, learners use either *Verb + -ed* or *Verb + -s*. This seems to be the reason why the continuum in relation to *Verb + Ø* contained such expressions as: *they sayed/says prayers, he do contributed/contributes money, children weared/wears clothes*. The same continuum contains *(Verb + past)* which does not occur in relation to the other two verb-targets.

A comparison between targets which are *lexical verbs* and the target in form of *auxiliary* revealed that marking non-past tense on the auxiliary proved to be more difficult. One possible explanation is that *Auxiliary verbs* might be regarded as *less frequent* than *lexical verbs*. Our assumption is that the less frequent words are more difficult (Wolfram 1985:248) because learners do not get sufficient input on which to form and test hypotheses. We also found out that learners have not acquired the necessary transformation rule which moves tense from a main verb to an auxiliary verb. Such a problem in SLA is noted by Hakuta (1979) and explained in his *simplicity principle* which states that learners avoid exceptions and that whatever they use, they make it orderly. This leads to such expressions as *do eats, do contributes* etc.

The IL continuum is based on the TL and not on the forms of the three native languages. For example, learners used the *forms* and *syntax* which are commonly found in the TL. Note that they did not use the suffixes -ed and -ing on auxiliaries because they do not occur in English. This finding supports the hypothesis that learners make hypotheses concerning the system of a TL on the basis of both positive and negative evidence (Chomsky 1981 (a)). The non-ocurrence of Aux +-ed and Aux +ing constitute indirect negative evidence (Cook 1985) but the occurrence of the two suffixes on lexical verbs is positive evidence. The

errors which learners make reveal that wrong hypotheses have been made concerning the distribution of the suffixes. This makes us conclude that ultimately what seems to be being learnt is how to narrow the range of syntactic environments in which each suffix might be used so as to convey specific meanings.

We have noted (Section 6.3:0:1 above) that all the IL forms except two were used by learners drawn from the three different native languages. The IL forms were re-analysed according to the three 'categories' (in 6.3:0.1) above). Two groups: B and C, are in perfect agreement. They have:

1		2		3
+Tense	>	-Tense	>	+Tense
+Target Tense		-Target Forms		-Target Tense
-Target .Tense Forms				-Target Tense Forms

but the third group, A, has a slightly different order which is
3 > 2 > 1.

These orders should not be interpreted as evidence for IL continuum which develop away from the target. An order such as 1 > 2 > 3 means that learners made use of 1 much more frequently than 2 or 3. It is important to note that 2 and 3 are less target-like than 1. Although there is a minor group variation between Group A and the other two groups, we cannot reject HO.1. On the other hand, the sequences which we have support the hypothesis that each IL will be systematically variable and goal directed.

A comparison across the IL continuum reveals that similar IL forms recur at each test time but important variations occur as a result of learners' movement from one test time to another. For instance the category

+Tense Marking
+Target Tense
-Target Tense Form

is in the *third*

position along a continuum of preference for learners at Time 1 and 2. It shifts to the *second position* and *first position* in the IL continuum for learners at Time 3 and 4 respectively. One interpretation of the shifting pattern of this category is that the continuum at the lower time limit will be less target-like than the continuum at the upper time limit. These variations suggest that there are important changes that occur in the IL and that these changes correlate with learners' movement over time. This means that we might not accept HO.2.

6.3:0

.3 Relative Difficulty In The Acquisition of Non-Past Tense

The results of ANOVA which we presented in earlier sections are relevant here. We concluded that some structures were more difficult than others. We also noted in Chapter Four that morphemes might be arranged in a linear order of relative difficulty which is regarded as an order of acquisition. Six of the eight groups (Appendix C_2) have non-past tense ranked 2nd, but the subjects in Group C and the learners at Time 4 have this tense ranked 3rd. The conclusion we draw from this finding is that among the six structures studied, non-past tense was one of the least difficult to acquire.

But if we focus on non-past tense *per se*, we might find that different groups experienced unequal difficulties in processing non-past tense. The three groups made 435 errors: 160 (36.8%) by Group A, 136 (31.3%) by Group B, and 139 (32%) by Group C. We carried out a χ^2 test and obtained $\chi^2 = 2.36$ which is smaller than the Critical $\chi^2 = 5.99$ with 2df at 0.050 level. The learners in Group A, Group B, and Group C were scored 77, 80 and 78 respectively as their mean Group Functor Scores. The results of the two types of Anova which we have quoted in earlier sections showed that there was no significant L_1 effect on the scores. All this evidence supports HO.4.

The learners were re-arranged along the dimension of Time and we found out that those at Time 1, 2, 3 and 4 made 151 errors, 135 errors,

99 errors and 50 errors respectively. The Chi Square test carried on these scores yielded χ^2 =55 which is greater than the Critical χ^2 = 7.81 with 3df at 0.050 level. Besides this, learners at the four test times were scored 72, 75, 80 and 87 respectively as their mean Group Functor Scores. Learners at Time 3 and 4 are regarded as 'Acquired'. The two way ANOVA and Wilk's statistic in the multivariate ANOVA showed that there was significant *Time* effect on Scores. This evidence is in support of H1.5 and we cannot therefore accept HO.5. Learners at different Time levels experienced unequal degrees of difficulty in acquiring non-past tense.

6.4:0 The Acquisition of Regular Plural

The structural descriptions of Plurality are in Chapter Three - Sections 3.2:0 - 3.2:3 and the learners' performance results in Chapter Five - sections 5.4:0 - 5.4:6.

6.4:0

.1 Interlanguage Grammar

Our analysis of the tasks which were set to test learners' knowledge of regular plural revealed that some nouns required the short plural -s, others required the long plural -es and a few others, such as *boyfriend* needed the short plural on the second noun only. We shall focus on these three plural types. The learners' performance results were analysed and we found that the IL grammar can be captured within the following set of constituent structure rules.

Rule 1	Regular Plural	Noun + Affix
2	Affix	{-Ø, -s, -ies}.
3	$Target_1$ N +-s	Regular Plural ⟶ Noun + Affix
		Affix {-Ø, es}
4	$Target_2$ N +-es	Regular Plural ⟶ Noun + Affix
		Affix {Ø, -s,ies}.

5 $Target_3$ N +Ø +N +S, Regular Plural ⟶ Noun + Affix

Affix { Ø, -s }

We re-analysed the data so as to map out the nature of substitution. The implicational orders which we obtained are as follows:

Target N+-s : [Noun +-Ø] > [Noun +-es]

Target N+-es : [Noun +-Ø] > [Noun + s] > [Noun +-ies].

Target N+Ø + N + S :[Noun +-s + Noun Ø] > [Noun + Ø + Noun + Ø] >

[Noun +s + Noun +s]

The patterns of variations are not random but very systematic. For instance, a comparison between the specific nature of variations for the first two targets reveals that learners' initial hypothesis is to use the uninflected noun (unmarked) for the purpose of conveying plurality. The second hypothesis is constrained by the form of the target such that where the target is the short plural learners use the long plural. Conversely where the target is the long plural, learners use the short plural. One explanation for the non-occurrence of the suffix -ies in relation to $Target_1$ is that it might have been eradicated relative to the short plural but it lingered on in relation to the long plural. With regard to the third target we see learners making several erroneous hypotheses leading to the strategy of regularization (Dulay, Burt, and Krashen 1982).

All the IL forms except *Noun + -es* were used by learners drawn from the threee different source languages. The one exception was observed among the subjects in Group C. It had only two frequencies and this suggests that it was on the verge of being eradicated relative to the short plural. Learners found marking *regular plural* on $Target_3$ much more difficult than either $Target_1$ or $Target_2$; the second in order of difficulty was $Target_2$

The complexity principle which underlies the markedness theory might be used to explain this order. If complexification is reflected in the

addition of morphemes, features, or rules (Rutherford 1982:86), then the sequence which we have constitutes an implicational order of markedness. And the conclusion which we draw from this finding is that learners find the less complex (less marked) forms easier to use than the more complex forms which are inherently more marked.

The distribution of the IL forms is of interest in this research project. The two frequencies of *Noun + -es* were observed at Time 2. Our interpretation of this distribution is that it is evidence for regression after the IL form had been eradicated. Two other forms, *Noun + -ies* and *Noun + -s + Noun + -s* were distributed at the first three data collection points only. We can assume that their non-occurrence at Time 4 is evidence for eradication. All the other IL forms were observed at the four test times but the frequency of each decreased tremendously between Time 1 and Time 4. A re-analysis of the data showed that the *{ zero affix }* is used 143 times at Time 1 and only 52 times at Time 4. The frequency of the IL forms which have evidence of plural marking increased between Time 1 and 3 afterwhich they decreased sharply between Time 3 and 4. These variations indicate some IL changes which are in the direction of the TL norm.

6.4:0

.2 Interlanguage Continuum

The IL continuum which are presented below portray the diachronic variations that occurred in the IL grammar in relation to specific targets. They also portray the variations that were observed at specific points in time. It is important to point out here that these continuum which are presented replicate the continuum observed among Group A, B and C

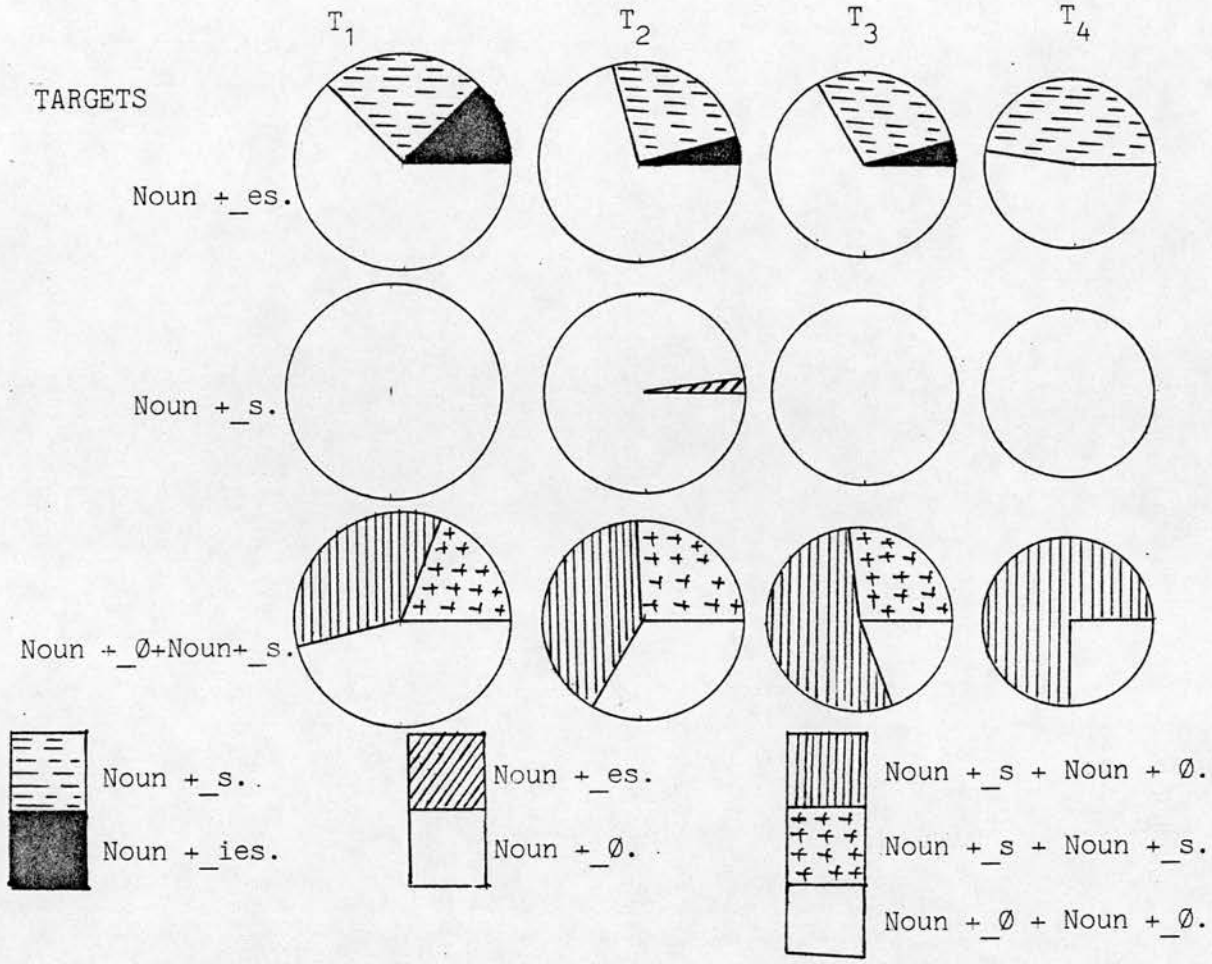


Figure 6.8 Variable Noun Inflections Used To Approximate The 3 Targets [Groups Combined]

A general impression one gets from these continuum is that the amount of variability differs with different targets. For example, there is very little variability along the continuum for Target 2. The IL form *Noun + -Ø* was used exclusively over time but it was permeated (Adjemian 1976, Faerch et al 1984:192) by *Noun + -es* at Time 2. The target *Noun + -es* shows a slightly greater amount of variability than the target *Noun + -s*. But the greatest amount of variability is observed in relation to the third target. This is at least so if the notion variability is interpreted to mean the number of conflicting IL forms used to approximate a specific target and also the amount of error made in relation to specific targets. It appears that there is a positive correlation between the amount of variability and the amount of difficulty because the least difficult target has shown the least amount of variability.

The IL continuum in the figure above are replicas of the types of continuum observed among learners drawn from the different source languages. The only variability is that Group C used the IL form *Noun + -es* at Time 2. The other two groups didn't use it. This minor variation is not sufficient evidence for us to reject HO.1. The IL continuum for each group involves a gradual eradication of the non-target forms and a systematic acquisition of regular plural. This type of development is evidently goal-directed and we cannot therefore reject HO.3.

The learners' movement along time does not seem to have caused radical variations in the *composition* of the IL grammar. This does not mean that there was no variation at all. Similar IL forms are observed at the first three test times but the IL forms *Noun + -ies* and *Noun + s + Noun + s* are eradicated at Time 4. The two are the least preferred IL forms along the continuum to which they belong. Such a pattern of eradication suggests that some variations in the IL continuum can be predicted because the least preferred are the first to be eradicated. One implication for this statement is that each IL continuum is systematically variable. We re-analysed all the IL forms into two categories, the first is [Zero Plurality] and the second is

$$\begin{bmatrix} + \text{ Plural Marking} \\ - \text{ Target Forms} \end{bmatrix}$$

The learners located at the four time levels showed a similar pattern of preference which is as follows:

$$[\text{ Zero plural marking }] \quad > \quad \begin{bmatrix} + \text{ Plural Marking} \\ \\ - \text{ Target Forms} \end{bmatrix}$$

One conclusion that we can draw from this sequence is that most of the errors made in relation to regular plural reflect learners' Uninversal Grammar because the uninflected (unmarked) nouns were

preferred and the inflected (marked) nouns were used only after the unmarked forms had been tested.

6.4:0

.3 Relative Difficulty In The Acquisition Of Regular Plural

The results of ANOVA (quoted in an earlier section of this chapter) provided us with sufficient statistical evidence for us to conclude that the acquisition of the six structures did not prove to be of equal difficulty. Since the six structures can be ordered in a linear sequence of difficulty so as to represent the acquisition order, we used the mean Group Functor Scores for the eight groups for the purpose of ordering the structures. All the eight groups (Appendix C_2) except two have regular plural ranked 4th but learners located at Time 3 and 4 have this structure ranked 4.5 and 5 respectively. The interpretation of this evidence is that regular plural was one of the more difficult structures to acquire. The rank of a structure is used to make comparison of its relative difficulty among the six structures studied. Our specific concerns are stated in HO.4 and HO.5

The frequency of error has been used consistently in this study as a measure of relative difficulty. The subjects in Group A made 175 errors, those in Group B made 191 errors and Group C made 196 errors. On the basis of these frequencies we obtained $\chi^2 = 1.29$, a value which is smaller that the Critical $X^2 = 5.99$ with 2df at 0.050 level. This means that the source language did not determine the relative difficulty in the acquisition of regular plural. The three groups were scored 70, 74 and 75 respectively as their mean Group Functor Scores. We have cited statistical evidence from the two types of ANOVA which made us conclude that there was no significant L_1 effect on scores. All this evidence supports HO.4 that learners drawn from different source languages will experience relatively equal degrees of difficulty in acquiring regular plural.

But learners located at Time 1, 2, 3 and 4 made 204 errors, 167, 113, and 78 errors respectively. This distribution of errors yields $X^2 = 66.88$ which exceeds the Critical $\chi^2 = 7.81$ with 3df at 0.050 level. The mean Group Functor Scores for the four groups are 64, 72, 74, and 83 respectively. Although the differences appear small, the results of the two way ANOVA and Multivariate ANOVA have shown that there was significant *Time* effect on scores. We cannot therefore accept HO.5 that learners located at different Time levels will experience relatively equal degrees of difficulty in acquiring regular plural.

6.5:0 The Acquisition Of Irregular Plural

The learners' performance results are in Chapter 5 - Sections 5.5:1 - 5.5:7.

6.5:0 .1 Interlanguage Grammar

A structural analysis of the IL forms used by learners yielded an IL grammar which may be represented by the following constituent structure rules.

Rule 1 Irregular Plural $\longrightarrow$ Noun + $Affix_1$

$Affix_1$ $\longrightarrow$ { -es, -Ø, -s }

Rule 2 Irregular Plural $\longrightarrow$ (Noun + plural) + $Affix_2$

$Affix_2$ $\longrightarrow$ { -s }.

Further analysis on the collocations between *Nouns* and *Affixes* yielded the four different IL forms which are presented in Figure 6.9.

Of importance to us is the fact that the IL grammar is based on the structure of the TL. This is revealed by its morpho-syntactic similarity to English. In fact, all the IL forms except *(Noun + plural) + s* are commonly used to mark plurality in the TL.

Learners seem to have made an erroneous hypothesis that the three pluralizing suffixes may be used in free variation yet we know that they are used in complementary distribution. The second erroneous hypothesis is that these suffixes might be used to represent irregular plural.

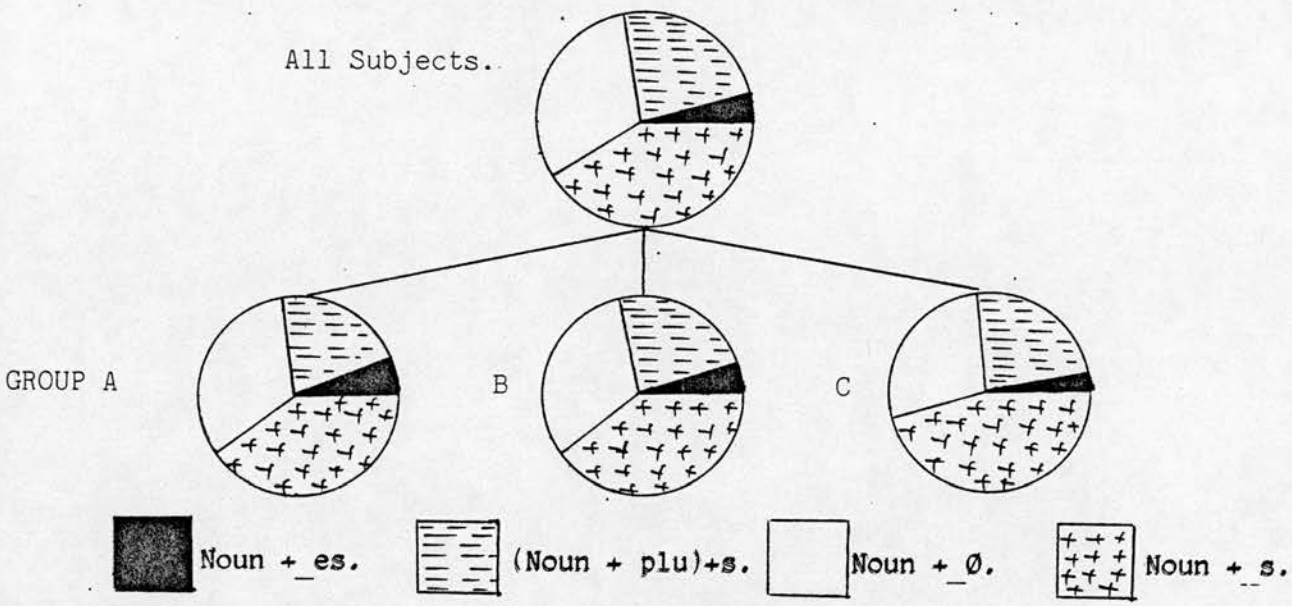


Figure 6.9 Variable IL Grammar Approximating The Irregular Plural

In general, the most frequent error type made by each of the three groups is *Noun + -s*. Our interpretation of this finding is that learners used the strategy of overgeneralization that the suffix -s may regularly be used to mark all types of plurality. It is likely that learners assume that such nouns as *policemen, children*, are in their singular rather than their plural forms. Consequently they overgeneralize plural marking with -s leading to *double plural marking*. Since learners drawn from different source languages used similar IL grammar, we cannot reject HO.1. Our evidence supports the hypothesis that second language learners use common processing strategies.

The IL forms used by learners located at different test times were analysed for the purpose of yielding the IL grammars. The results are reflected in the diagram below.

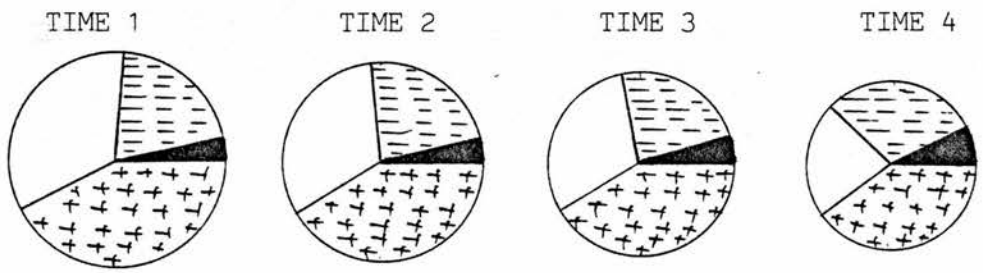


Figure 6.10 Interlanguage Grammar Shown By Learners At Different Time Levels. (Legend In Figure 6.9)

Figure 6.10 shows that the composition of the IL grammar for learners at the four test times is similar. This means that movement from one time to another did not cause variability on the types of IL forms learners used to mark irregular plural. But the variation portrayed by the decreasing sizes of the profiles reflects an important change in learners' hypotheses about the TL. Learners' knowledge in a target language is reflected by the forms of errors they make and the frequency of each error type. The frequency scores for *Noun + Affix* $_1$ drop from 87 to 20 and those for *Noun + Affix* $_2$ drop from 23 to 9 between Time 1 and Time 4.

6.5:0

.2 Interlanguage Continuum

In order to have a clearer picture of the morphological forms which were used to mark irregular plural we analysed the data along three broad types of plural marking. The first consists of all the IL forms

which did not show any evidence of plural marking, hence *Zero Plural Marking*. The second comprises the three IL forms in Figure 6.9 which evidence plural marking. We shall represent these as

$$\begin{bmatrix} + \text{ Plural Marking} \\ - \text{ Target} \end{bmatrix}$$

We added a third type which is:

$$\begin{bmatrix} + \text{ Plural Marking} \\ + \text{ Target} \end{bmatrix}$$

This happens to be the target. The continua which are presented below show the variations that occurred over time in the continuum for three different groups.

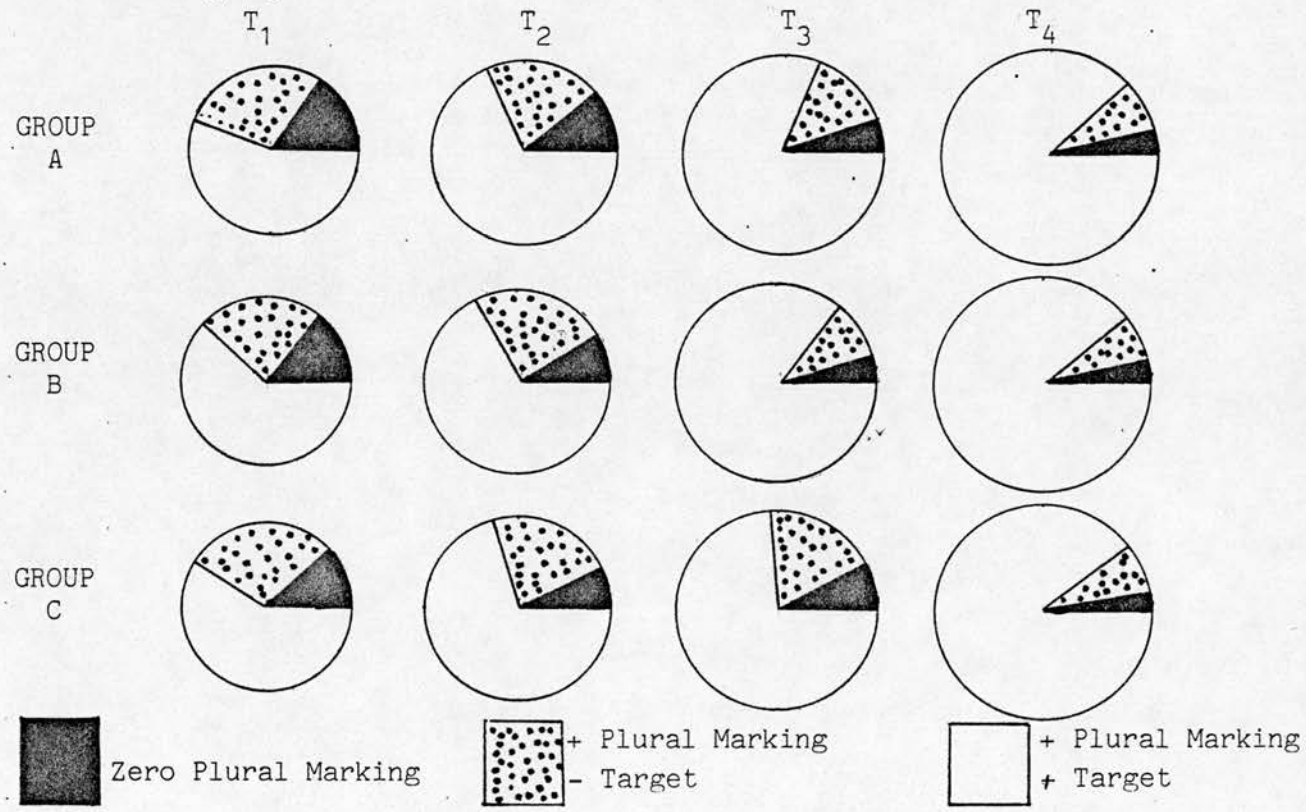


Figure 6.11 Interlanguage Continuum In The Acquisition Of Irregular Plural

Some of the aspects which the three IL continuum share include the *grammatical composition, the syntax* and also *development* over time. Progress between one time and another is mirrored as a systematic eradication of the two non-target types of plural marking and a gradual acquisition of irregular plural. There are a few inter group variations. Group B eradicated *Noun + -es* at Time 3 but it re-emerged at Time 4. This IL form was observed at Time 1 and 3 in Group C. Its re-emergence at Time 3 might be regarded as evidence for regression. All the other IL forms were distributed among the three linguistic groups and also at the four test times. This evidence leads to the conclusion that learners drawn from different source languages will show similar IL continuum but there are important variations that are observed as learners move from Time 1 to Time 4. For instance, the IL wheels for learners at Time 4 show that the non-target forms are almost eradicated. This suggests that learners at Time 4 have progressed further towards native-like competence than those at the preceding test times. The variations mirrored in the IL wheels show that the IL is systematically variable and goal directed.

6.5:0

.3 Relative Difficulty In The Acquisition Of Irregular Plural

Seven of the eight groups (Appendix C_2) have irregular plural ranked 1st but the subjects at Time 4 have this functor ranked 1.5. Our interpretation of these results is that the acquisition of irregular plural proved to be the least difficult among the six structures studied. But our specific interest is whether different groups would experience relatively equal degrees of difficulty in processing irregular past tense *per se*. We counted the number of errors made by subjects in Group A, B and C and then we carried out a Chi square test. The results were X^2 = 0.45 which is smaller than the Critical X^2 = 5.99 with 2 df at 0.050 level. The three groups were scored 80, 83 and 82 respectively as their mean Group Functor Scores. The two way ANOVA on the scores for all the subjects in the six structures studied yielded F = 4.78 which is smaller than the Critical F = 19.49 with 2 df. Besides this the General

Univariate and Multivariate ANOVA yielded LRATIO p = 0.899 which is greater that the Critical p = 0.05. All those results support HO.4 that learners drawn from different source languages will experience relatively equal degrees of difficulty in acquiring irregular plural.

The learners located at the four different Time levels made significantly different amounts of error because on the basis of the errors made at each time we carried out a Chi Square test and obtained X^2 = 57.9. This value is much greater that the Critical X^2 = 7.81 with 3 df at 0.050 level. Furthermore learners at Time 1 were scored 74, those at the three subsequent test times were scored 80, 84 and 89 respectively as their Group Functor Scores. The results of the two way ANOVA were F = 55.25 which is greater than the Critical F = 8.54 with 3df. Our results of the multivariate ANOVA were LRATIO p < 0. 0001 which is much smaller than the Critical p = 0.05. Since all this evidence supports H1.5 we cannot therefore accept HO.5 which states that learners located at different test times will experience relatively equal degrees of difficulty in acquiring irregular plural.

6.6:0 The Acquisition Of Negation

The structural descriptions of negation are in Chapter Three - Sections 3.3:0 - 3.3:3 and the learners' performance results in Chapter Five - Sections 5.6:0 - 5.6:6.

6.6:0

.1 Interlanguage Grammar

A syntactic analysis of the tasks which were set to test learners' knowledge of negation with the particle *not* showed that we might focus on two broad targets. The two will be referred to as Target 1 and Target 2.

Target 1: Auxiliary + Negative particle + Main verb

The IL grammar which was used in relation to this target contained four IL rules which are presented below in form of an implicational continuum

[MV + Neg] > [External Neg] > [(Aux) + Ø Neg + MV] > [Aux + *no* + MV]

These IL forms reveal the types of hypotheses which learners form and the sequence portrays the systematic variability in the hypotheses. The learners' initial hypothesis is to place *Neg* after the main verb. Consequently their linguistic output contained such collocations as *I assist not him.* Such an expression is erroneous in two respects. First, learners failed to introduce the auxiliary *do.* Secondly, the negative particle does not follow the MV unless the main verb is the copula. By *External Neg* we mean that the negative particle was used outside the main sentence such as in: *Not I assist him*; *Not John frightens the children.* It might be the case that the learners who used such syntactic collocations intended to focus negation on the *Subject.* They would have been correct had they introduced the expletive *It* so as to read: *It is not.....* The third hypothesis is erroneous in two respects. First, the auxiliary structure was used optionally yet it is an obligatory structure in negative sentences. Secondly, negation was not marked at all. The fourth hypothesis is erroneous in only one respect - the form *no* is used instead of *not.*

The 292 errors that were made in relation to Target 1 might be divided into three groups. These are:-

(i) 226 errors (77.4%) might be characterised as:

+ Target Negative Particle
- Target Syntactic Position.

(ii) 59 errors (20.2%) were in the form of

Zero Negative Marking

and

(iii) 7 errors (2.4%) were of the form *no* Negative Particle.

One conclusion which might be drawn from these three error types is that learners have not acquired the syntactic rules which restrict the negative particle in its target syntagmatic environments in different types of expressions.

Target 2: Main Verb + Negative Particle

The negative particle may be introduced after the main verb whenever the MV is a form of *be*; and even then only five forms of *be* (am, was, were, are, is) allow the *MV + Neg* collocation. This target attracted three IL syntactic patterns which constitute the IL grammar. The first pattern was *MV + no*. This is syntactically correct but it contains a non-target form of the negative particle. The *no* form of negation was popular in the translation tasks leading to expressions such as *The chair is no good*. cf The chair is not good.

The second pattern was observed in the tasks which required learners to negate questions. Instead of negating questions, learners transformed them to statements afterwhich they placed the negative particle correctly. The question-to-statement transformation might be seen as a strategy which learners use to simplify the task. A comparison between those who negated statements after the transformation and those who negated questions showed that the accuracy level for the former group was better than that for the latter group. If it is the case that a learners' cognitive structure prefers simpler forms which conform to Universal Grammar, then the theoretical explanation for the strategy used by learners might be found in the markedness theory. Since transformation from a statement to a question involves the addition of syntactic rules (Rutherford 1982), then a question is more marked than a statement. Consequently, negating a question should be more difficult than negating a statement.

The third IL pattern contained *double negative marking* such as in: *Isn't your Headmaster not a good man?* cf Isn't your Headmaster a good man or cf Is your Headmaster not a good man? Although the syntax conforms to *MV + neg*, the occurrence of *double negative particles* makes the expression - non-target. A very small number of learners used *Is not your Headmaster....* which is correct syntactically but it is regarded non-target because the contracted negative affix -n't is preferrable in such syntactic environments.

A comparison between the relative % - age of error made in relation to the two targets revealed that marking negation on the first target proved to be slightly more difficult than marking negation on the second target.

Next in our concern is the distribution of the IL forms. Three of the four IL forms used to approximate Target 1 were distributed at the four test times. The fourth - *Aux + no + MV*, which was also the least preferred was not observed at Time 4. We can assume that it had been eradicated. Learners at the first three test times showed perfect correlation with regard to the sequence of the IL forms but those at Time 4 had [MV + Neg] > Aux + ØNeg + MV] > [External Neg]. Similar trends were observed in relation to the IL forms used to approximate Target 2; but *question-to-statement* transformation and *double negative marking* had been eradicated at Time 3. Although there are similarities in the IL grammar, it is important to note that the form and composition of the IL grammar shows variations which are attributable to learners' movement from one test time to another. We cannot therefore accept HO.2.

6.6:0

.2 Interlanguage Continuum

The orders of preference which we have noted in relation to the two targets might be regarded as continuum at specific points in time. In order to represent all the seven different IL forms on one continuum, we

re-organized these IL forms into four broad categories. Since the non-target forms co-occurred with the target; we added the fifth category i.e. target-use of negation. The relative proportions of each form at specific points in time are reflected in the continuum below.

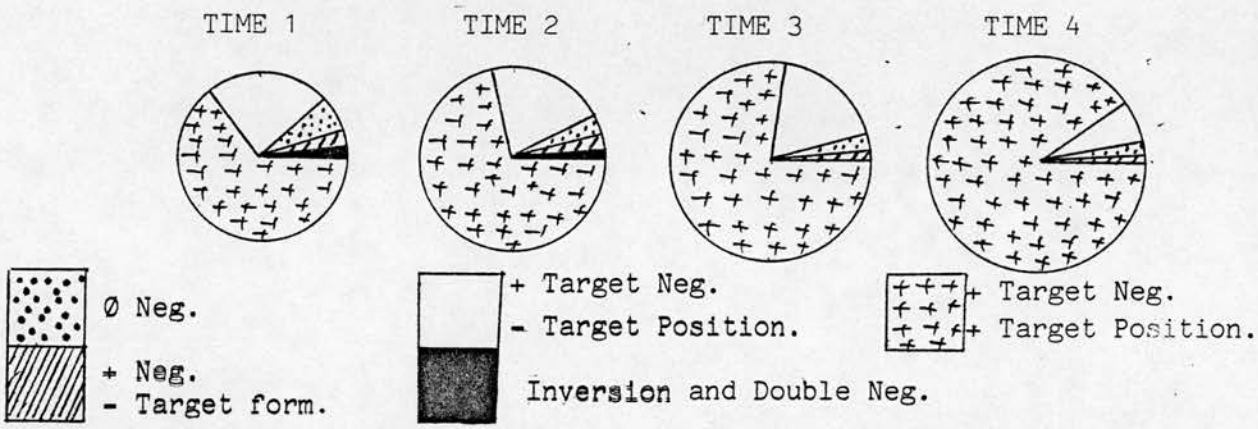


Figure 6.12 Interlanguage Continuum In The Acquisition Of Negation [Groups Combined]

The IL continuum is variable because learners are viewed testing various forms in the process of acquiring negation with the particle *not*. Some of the forms tested include: a *misformed form of negation, incorrect placement of the negative particle* and in some cases *negation is not marked at all*. The dynamic quality of the IL continuum is reflected by the varying patterns in which there is decreasing reliance on non-target forms to mark negation. For example, the reliance on the simplification strategy (i.e. inverting questions to statements) and also the double negative marking are eradicated after Time 2. Secondly movement over time correlates with an increase in target-like use of the negative particle which suggests that the systematic variations in the continuum are in the direction of the TL norm. A comparison between the IL forms used by learners drawn from different native backgrounds revealed that they used similar forms except *double negative marking* which was not used by Group C. This is not sufficient evidence for us to reject HO.1 but the tremendous amount of variation which is reported

is sufficient evidence for us to reject HO.2. Since the variations are non-random we cannot reject HO.3.

6.6:0

.3 Relative Difficulty In The Aquisition Of Negation

Six of the eight groups (Appendix C_2) have negation ranked 3rd but two groups - subjects in Group C, and those at Time 4 have negation ranked 2nd and 1.5 respectively. The most typical rank for negation is 3rd. This leads us to the conclusion that negation was one of the more difficult structures to acquire.

But the acquisition of negation *per se* might have proved more difficult to some goups than to others. Using the frequencies of error made by learners in Group A, Group B and Group C we carried out a Chi square test and obtained $X^2 = 1.95$. This value is much smaller than the critical $X^2 = 5.99$ with 2 df at 0.050 level. The three groups A, B and C were scored 76, 77 and 79 respectively as their mean Functor Scores. We have also quoted statistical evidence from the two types of ANOVA which supports the hypothesis that there were no significant effects of L_1 on the scores. We cannot therefore reject HO.4.

But learners located at different Time levels made significantly different amounts of error. On the basis of the errors made by learners at the four different test times we carried out another Chi square test and obtained $X^2 = 53.69$ which is substantially greater than the critical $X^2 = 7.81$ with 3df at 0.05 level. Furthermore learners at Time 1, 2,3 and 4 were scored 68, 74, 78 and 89 respectively. We have already presented results of ANOVA and supported the view that there was significant *Time* effect on scores. We cannot therefore accept HO.5.

6.7:0 Orders Of Acquisition

The quantitative methods used in this research project enable us to conclude that some structures proved to be more difficult than others. Evidence suggests that learners located at the four test times and also arranged according to their L_1 will show similar orders of difficulty. For instance on the basis of the data in Appendix C_2 (ii) we calculated Kendall's Coefficient of Concordance and obtained W = 0.928. The interpretation of this coefficient is that the eight groups in the appendix mentioned above are in agreement with respect to the rank orders.

The data which we have in Appendix C_2 (ii) portrays the order of acquisition which is as follows:

[Irregular Plural] > [Non Past Tense] > [Negation] > [Regular Plural] > [Irregular Past Tense] > [Regular Past Tense].

This order of relative difficulty might be regarded as an order of acquisition because learners acquire easier structures before the difficult ones. We carried out a series of two way ANOVA in an attempt to find out whether there are groups of structures that might be acquired simultaneously. The results are in Appendix C_3. We concluded that the order of acquisition might be:

[Irregular Plural] > [Non Past Tense / Negation] [Regular Plural] > [Irregular Past Tense / Regular Past Tense].

Although there were minor variations this order seems to be an average order for learners located at four different test times and also for learners arranged according to their source language.

6.8:0 Conclusion

In this chapter we have explored the interaction between two independent variables: *Time* and *Native Language* and one dependent variable i.e. *Interlanguage*. Evidence seems to suggest that SLA is a systematically variable process. The source language does not seem to have effects on the interlanguage but *Time* is a crucial factor.

In the next chapter we shall summarize the findings and attempt to relate them to the notion *interlanguage*, languagage acquisition within classroom environments and to pedagogy.

CHAPTER SEVEN

7. Conclusions

7.0 Introduction

This study set out to find evidence for the popular hypothesis within interlanguage studies that a second language learner's language is a linguistic system which is largely determined by a universal built-in syllabus. One of the implications of this hypothesis is that learners who speak different mother tongues would be found using similar interlanguage forms in relation to specific target structures of a second language.

The data was therefore collected from learners drawn from three unrelated languages and who are exposed to the target language mainly under classroom conditions. Language acquisition under such conditions is also referred to as 'Classroom Second Language Development' (Ellis 1984).

The primary focus in the study was on the types of errors which learners made in relation to each of the structures under investigation. By focussing on the errors we were able to map out some linguistic regularities which in turn shed light on specific cognitive strategies and processes which learners appear to have been using.

Bearing in mind that the research project, like any other, has its own limitations, we propose to make tentative rather than definitive conclusions.

7.1 Summary Of Findings

7.1:0 Effects Of NL On IL Grammar And IL Continua

This section relates to HO.1 and H1.1. The hypothesis that learners who are drawn from different source languages will show a similar IL Grammar and a similar IL Continuum in acquiring each structure studied was accepted.

7.1:0
.1 Effects Of NL On IL Grammar

Our findings showed that learners drawn from the three unrelated native languages used similar non-target IL forms for the purpose of marking tense, plurality and negation. The sets of non-target IL variants and the target language variants were used in free variation. But we noted some surface-level linguistic constraints on the use of the non-target IL forms. This means that certain IL forms were used in complementary distribution.

An analysis based on the relative frequency of use of each IL variant suggests that learners will generally prefer the uninflected verb and noun forms. One conclusion we draw from this evidence is that learners' initial grammar is unmarked. This conclusion seems to be in agreement with Chomsky's notion of an unmarked core grammar within the Universal Grammar theory.

If it is the case that learners' initial grammar is unmarked then we can hypothesize that such learners will gradually acquire the necessary TL rules for fixing specific parameters to mark tense types, plurality and negation.

We also observed that learners drawn from the three unrelated languages conform to almost identical orders of preference. The

conclusion we make in relation to this finding is that learners use universal cognitive mechanisms to process language.

A structural analysis of the interlanguage forms showed that the IL grammar is to a large extent morphologically similar to the target language and it bears no relation whatsoever to the native languages. Thus the IL grammar for tense was mainly *Verb + Affix (es)* and that for plurality was *Noun + Affix (es)*. Furthermore the affixes used by learners are identical to the affixes which would appear in English whenever tense and plurality are marked. This finding raises an important question in relation to the notion of *separateness* (Selinker 1972) of an IL from the TL. But the learners' use of the affixes in non-target contexts makes us conclude that such learners will eventually acquire the target language rules which restrict each affix to specific environments.

In addition to this we might conclude that learners have not acquired important surface level transformational rules of syntax because they might be conveying meaning in a target tense or plural but fail to use the target verb or noun forms. Thus *was* and *mans* were used instead of *were* and *men* respectively.

With regard to negation, our findings demonstrated that the acquisition of the surface form does not mean that learners have acquired the target rules that restrict the negator to specific target syntactic positions. This suggests that forms should be assessed in relation to other structures with which they collocate. The *immediate constituent analysis* or Chomsky's *Government and Binding* theory might be used to explain the necessary syntactic rules. For instance, in order to negate a sentence which does not have an auxiliary as one of its constituent structures or a sentence whose main verb is not one of the forms of *be, have,* or *do* it is obligatory that one of the forms of *do* be introduced. Our data showed that a few learners negated some sentences without performing the necessary *do-insertion* transformation.

Furthermore learners were found using the uncontracted negative particle *not* in contexts which require the contracted negative affix - *n't.* This supports the conclusion we made that learners have not acquired important morpho-syntactic rules of the TL. One important rule that learners have not acquired is that which governs the form of the verbs in relation to 'number' in the nouns. Thus learners were found using target plural forms but failed to transform the verb forms so as to obey obligatory rules of concord. Such errors were not unique to one group of learners. This suggests that learners did not use knowledge of their L_1 because we noted that plurality is marked on most of the words that make up a sentence in the three native languages.

Our findings also showed that learners from the three source languages will *double-mark* tense, plurality and negation. We suggested that one possible explanation for double-marking is that learners assume that tense, plurality and maybe negation are not marked. Such learners proceed to use the strategy of overgeneralization. This appears a plausible explanation in relation to tense and plurality but not in relation to negation because the negative particle - a free morpheme - was used twice within a clause.

We hypothesized that learners might have been trying to focus negation on two structures in a sentence. Thus in a sentence such as: *Is not our Headmaster is not a good man*, the negation is focussed on the structure *headmaster* and also the attributive adjective *good.*

The conclusion we draw is that learners will ultimately get sufficient negative evidence disconfirming the existence of double-marking. Consequently they will unfix one of the forms which have been used to mark tense, plurality and negation.

Findings also showed that the IL grammar is in many ways similar to the IL grammar reported in other second language acquisition studies. For instance, we corroborated that the suffix -ing is frequently used before the suffix -s and that learners seem to be in confusion between the auxiliary structures *be* and *do.*

We also concluded that the interlanguage grammar will show greater variability in the number of variants used to approximate a particular target if the target is realized by more than one morpho-syntactic form. Thus the IL grammar used to approximate *regular past tense* and *regular plural* shows less variability than the IL grammar used to approximate *irregular past tense, non-past tense* and *irregular plural.*

Since these findings are based on the IL grammar observed in the three groups, we concluded that the native language did not determine how learners processed the target language.

7.1:0

.2 Effects Of NL On IL Continuum

The evidence which we have in the preceding chapter makes us conclude that the NL did not have an effect on the IL continuum. The IL continua shown by one group replicate almost perfectly the IL continua shown by the other two groups. This does not mean that there were no variations in the continua shown by the three groups. Differences exist between groups. For instance, the IL continuum shown by one group might contain an IL form which is not observed in the continua shown by the other groups. But the similarities outweigh the differences. This is in agreement with Krashen (1982) who says that we should expect statistically significant correlations between groups.

We hypothesized that the minor differences mirror variations in the progress which different groups have made along a continuum of development. The continuum of development showed that certain IL forms were gradually being eradicated. Another way of explaining the minor discrepancies is that groups were viewed making regressions to IL forms which might have been eradicated. Thus one group might regress while others fail to.

Besides sharing similar IL forms and eradicating specific IL forms, the results showed that the IL continuum conform to almost identical

orders of preference such that the most frequent IL form in one continuum is also the most frequent in the continuum for the other groups. We also found out that the least target-like IL form is nearly always the first to be eradicated. The insight we gain from this evidence is that there was consistency from one learner to another and this consistency is maintained because learners from different mother tongues use similar cognitive mechanisms which are independent of the source language.

Another aspect which is shared among the continua for the three groups is the types of strategies and process mechanisms which learners use. We have already pointed out that learners from different source languages regressed to similar IL forms and that they made overgeneralizations which seem to be based on the linguisic regularities which are inherent in the target language.

The overwhelming empirical evidence which we have quoted supports the conclusion that the learners drawn from three unrelated languages must have used similar creative construction mechanisms. Consequently they developed through a succession of similar hypotheses which were tested and confirmed or rejected.

7.2:0 Effects Of Time On IL Grammar And IL Continuum

This section relates to HO.2 and H1.2.

The hypothesis that the IL grammar and IL continuum will not vary in response to learners' movement from Time 1 to Time 4 was rejected.

7.2:0
.1 Effects Of Time On IL Grammar

Our analyses of the IL grammar along the dimension of Time showed that learners located at the four test times used similar variants for

the purpose of marking tense, plurality and negation. This evidence seems to support the null hypthesis and it would mean that if there are minimal differences then the interlanguage has fossilized (Huebner 1979:23). Rather than relying on only one criterion, we looked for other important variations which are attributable to the effects of learners' movement from one test time to another.

One of these has to do with the *number* of variants shown by learners at different test times. It was found that learners at the lower test times used slightly more IL variants than those at the upper test times. This is an important difference because learners' movement across *Time* involves systematic eradication of the non-target IL variants.

Another variation is in the *relative frequency* of use of each IL form. This is reflected in the relative proportions of each IL form in the IL wheels. It is important to point out here that the relative proportion of the target language variant increases over time but the proportions of the non-target forms decrease over time. The implication of these varying proportions is that learners at the lower test times are less target-like than those at the upper test times.

The third important type of variation is in *the relative use of marked and unmarked structures*. We noted that learners in the lower test times will prefer to use such structures as Verb + -Ø and Noun + -Ø. Such forms are unmarked but as learners move over time they employ a system of marked forms. The conclusion we draw from this evidence is that the IL grammar will vary from less marked to more marked and that the variations will correlate with learners' movement over time.

7.2:0

.2 Effects Of Time On IL Continuum

It is implied in the section above that learners will move along an IL continuum of increasing degrees of markedness and that the variations in markedness are in the direction of native speaker forms. This is

portrayed in the increasing proportions of the TL variants. Such variation also leads us to the conclusion that learners' movement over time affects their relative competence in the TL such that learners at Time 4 have moved further towards native-like competence than those at the preceding test times.

Findings also show that there is tremendous variation in the strategies used by learners. For instance, while learners at the four test times may show evidence of using overgeneralization and simplification, the relative frequency of these strategies decreases as learners move from one time to another.

In general the continua show a tremendous amount of overlap and we can not isolate discrete stages of development which might be associated with particular time intervals.

7.3:0 Nature Of The Language Learner Language

This section relates to HO.3 and H1.3.

The hypothesis that the IL continuum will be systematically variable, dynamic and goal-directed was accepted. The three main criteria which we used in order to accept the hypothesis are: the *forms* of the IL variants used by learners to approximate specific targets, the *variations* in the relative use of the IL variants and the *directionality* of change.

We have noted that learners will use a system of forms for the purpose of marking tense, plurality and negation. We claimed that the choice of the IL forms is not random but highly regular and systematic. Our analysis of the IL forms yielded evidence to support the view that the bulk of the errors are developmental. For instance, the omissions of verb and noun suffixes are typical of the simplified forms which language acquirers use. Furthermore the use of overgeneralization leads to clear patterns of linguistic change. We claimed that learners resort

to this strategy because of the positive evidence of regularization which they observe in the TL. Unfortunately such regularization leads to fixing specific parameters in contexts which do not require the functors. The conclusion we can draw here is that learners will get indirect negative evidence i.e. the absence of specific functors such as *-ed* on such a verb as *come*, or direct negative evidence i.e. corrections from teachers or peers. The learners will therefore unfix the parameter but acquire the necessary TL morphological rule which changes *come* to *came*.

Mention has already been made in the preceding pages that the underlying systematicity is reflected in the numerous non-random ways in which the approximative forms were substituted in each lingusitic context. We claimed that some of the shifting patterns are so regular that they can be predicted with a high degree of precision. It would be misleading to claim that all the variations were highly regular as to be predicted. We noted some unclear changes in the IL. There are some IL forms which do not seem to conform to specific patterns. This is not peculiar to this research project because Dulay, Burt and Krashen (1982:172) point out that most taxonomies of error have 'a grab bag' for the items which do not seem to fit into specific categories. These findings are in agreement with Labov (1971) who identifies two types of variability. *Systematic variability* is that which can be predicted by rule and *unsystematic variability* is that which is idiosyncratic and cannot be predicted.

Another aspect of variability is that which reflects change in the learners' knowledge of the TL. We are referring to the criterion referenced variability which is emphasized in Brown's (1973) study. We have noted that learners located at Time 4 have moved further towards native-like competence than those in the preceding test times. It is also important to stress that all the learners were making progress in the direction of a common goal. The implication of such development is that the language learner language is goal oriented. This is why the non-target IL forms were dropped in favour of the TL forms.

7.4:0 Nature Of Relative Difficulty

This section relates to H0.4 and H1.4, HO.5 and H1.5.

7.4:0 .1 Effects Of NL On Relative Difficulty

The hypothesis that learners who are drawn from different source languages will experience relatively equal degrees of difficulty in acquiring each structure studied was accepted.

The conclusion we draw from the analyses of variance, the rank order correlation coefficients, and Kendall's Coefficient of Concordance based on the data for Group A, B and C is that the source language of a learner does not affect the relative difficulty which a learner experiences in acquiring each structure. This means that there was no cross-linguistic facilitation in the process of acquisition.

7.4:0 .2 Effects Of Time On Relative Difficulty

The hypothesis that learners who are located at different Time levels will experience relatively equal degrees of difficulty in acquiring each structure studied was rejected.

The evidence which we obtained from the interaction between learners' *functor scores* and *Time* suggested that there were significant differences between the scores for learners located at different test times. Furthermore after plotting group functor scores on graphs in form of acquisition curves (see Figures 5.1, 5.4, 5.9, 5.11, 5.14, and 5.15) the patterns which emerge support the view that learners at the four test times were captured at different acquisition levels with those at Time 4 portrayed as better than those in the preceding test times. Besides this we calculated several Chi square tests on the frequency of

errors for learners located at different test times and the results supported the view that there were statistically significant differences. Since learners at Time 4 made relatively fewer errors than those at the preceding test times we might conclude that they experienced relatively less difficulty in processing the tasks which assessed their acquisition of the target structures.

Further corroborative evidence is to be found in Figure 5.16. A close examination of the pattern of acquisition in the figure shows that learners at Time 1 are portrayed as *not acquired* all the six structures, those at Time 2 have acquired only one of the six structures, learners at Time 3 have acquired three structures and the learners at Time 4 have acquired all the six structures. It is therefore without doubt that learners located at different test times experienced unequal degrees of relative difficulty in the process of acquiring the structures.

7.5:0 The Nature Of The Acquisition Process

Findings suggest that language acquisition is mainly a developmental process and that the types of errors made in the process reflect the strategies and processes involved in that process. The process of acquiring the different structures that make up a language is fairly gradual because learners seem to make tentative approximations of particular targets such as verb and noun morphology.

The data which we have has demonstrated that the process proceeds via the successive acquisition of individual features. Thus the acquisition of regular past tense might be characterized as follows:

$$[\ \text{ØTense}\ ] \quad > \quad \begin{bmatrix} \text{+ Tense} \\ \\ \text{- Target Tense} \end{bmatrix} \quad > \quad \begin{bmatrix} \text{+Tense} \\ \\ \text{+ Target Tense} \end{bmatrix}$$

This characterization of the acquisition process is important because it reveals the developmental route and we can locate learners at

specific points along the route. This conclusion is in agreement with Wolfram (1985) who has stressed that SLA should isolate surface level constraints before we start looking for higher level constraints such as discourse. What Wolfram seems to be suggesting is a bottom-up approach in our analysis of learners' output.

Our findings also show that some structures might prove to be more difficult than others. Although the implicational scaling technique has some limitations, we have used it to present the six structures in a linear order of increasing difficulty. One of the weaknesses is that a 'crossing-the-finishing-line' approach is used giving the impression that groups of structures cannot be acquired simultaneously. After contrasting pairs of structures we concluded that the six structures fall into four groups. Such an analysis is in agreement with Dulay and Burt (1974) who used the Ordering Theoretic Method in order to find groups of structures that might be acquired concurrently.

7.6:0 Relating Findings To Language Acquisition In Classrooms

The data for this research project was elicited from *'captive' learners* (Corder 1976). These are subjects who are exposed to a target language mainly under classroom conditions. Such conditions are also referred to euphemistically as acquisition-poor environments. Although there are differences between language acquisition in and outside classroom environments the two are similar in many respects. For instance, the input provided by teachers is in many ways similar to the input which a language learner gets outside (Ellis 1984:96). Furthermore captive learners exhibit *error patterns* (Felix 1981) and *acquisition orders* (Pica 1983) which are very similar to those of learners receiving no instruction at all or receiving instructions in addition to communicative exposure.

Although not all the input which learners get is important for acquisition purposes, it is likely that classroom teaching might provide learners with isolated, discrete linguistic units or rules of language

(Gregg 1984) upon which hypotheses are confirmed or rejected (Faerch, Haastrup and Phillipson 1984:192). The notion 'consciousness raising' (Sharwood Smith 1981) is important here. Besides this, it is likely that learners provide input to each other in various ways. This is in agreement with Sharwood Smith's (1981:166) model which shows *other speakers' utterances* as a source of input.

The quality of the non-native peer input might be relatively poorer in comparison with the type of input they would get from native speaker peers. However, there is no doubt that learners with varying degrees of competence in the TL interact in the TL and use each other as a source of input. The implication of these arguments is that negative and positive evidence is provided within classroom settings and our findings should apply in other untutored language acquisition environments.

But there is mounting evidence which suggests that highly structured input may interfere with rather than promote acquisition. For instance, Dickerson (1975), Felix and Simmet (1981) have pointed out that language teaching and language acquisition are not in total agreement. This has far reaching implications for language teaching in Kenya where the emphasis is still on Traditional and Structural Grammars.

7.7:0 Relating Findings to Pedagogy

Findings in SLA research might have direct or indirect implications for second language teaching. It is generally agreed upon that the non-target forms which were erstwhile regarded as undesirable are an important source of vital information about the types of strategies and processes which learners use in acquiring a language. Teachers can therefore use the non-target forms to assess the limitations of particular strategies which underlie specific types of errors. In other words teachers should be able to understand how learners fix specific parameters. The insights gained from the process of fixing parameters can be useful in helping learners unset parameters.

Besides this, the transitional constructions might also be used to assess how far away from the target a learner is. This has two advantages. Firstly, a teacher might use the information to provide the learner with the necessary input so as to facilitate a learner's movement from i to i + 1 (Krashen 1982). Secondly when assessing learners, the teacher might award credit which reflects the different degrees of progress along the developmental path. This should provide encouragement to the learners.

The notion variability in SLA has important implications for pedagogy. To begin with, the teacher should know that some learners will make better progress than their peers even though such learners come from the same NL or be located at the same point in time and be exposed to the TL under identical conditions. One implication is that whenever differences are noticed the teacher should try to offer individualized instruction so that teaching does not have adverse effects on individual learners who vary in acquisition rates.

Findings have also shown that learners will use target language norms at one time and use non-target language forms at other times. We have reported that our subjects used the TL variant and the non-TL variants in free variation. Dickerson (1975) says that such variability is frustrating to the teacher. Instead of being a source of frustration it might be a source of vital information about backsliding (Selinker 1972) or regression (Corder 1981) which is an inherent phenomenon in a language acquisition process.

After regression, learners are expected to make further improvement but if there is persistent recurrence of certain IL forms which were thought to have been eradicated, the teacher should realize that certain forms fossilize and learners will retain them irrespective of the amount of teaching that might be offered. It would appear that the process of fossilization in SLA has so far not been examined thoroughly. Thus the recommendation we would offer to teachers is that instead of trying unsuccessfully to eradicate the fossils, the teacher should disregard them unless they cause significant interference to communication. To

conclude this section we might say that language teaching should facilitate rapid language acquisition by providing linguistic input enriched by specific discourse features which in turn would foster optimum intake.

7.8:0 Concluding Remarks

In this research project we approached IL through Error Analysis (Corder 1967). We have used a variationist perspective supported by a dynamic paradigm to demonstrate that SLA is a systematically variable process. Our findings have shown that learners use a common core system in their acquisition process. But we are aware that the processes involved in SLA are not fully understood because of our insufficient knowledge of the exact nature of a learners' innate syllabus.

Although the findings in the project do not establish the exact nature of the processes and strategies used by L_2 learners, the results contribute valuable information about the learners' creative approach to a TL. Research in SLA might give increased attention to the set of processes which are responsible for motivating L_2 acquirers to use specific IL forms in relation to particular TL forms. As a starting point, research might analyse the constraints that exist between a specific target form and the structures which constitute its context. For instance, besides affecting the form of nouns, plurality imposes certain morphological changes on *demonstrative pronouns* and *some verbs* which collocate with the pluralized nouns.

With regard to tenses, research might explore the relationship between learners' conception of *states* and *processes* and how these notions might be marked on verbs. It appears that some learners used some stative verbs in dynamic forms because they perceived certain states as [+ dynamic].

The data in our study has also shown that the introduction of the negative particle imposes a series of morpho-syntactic transformations on *Auxiliary* and *verb* which constitute the negators' context. Evidence shows that many learners have not acquired the necessary transformational rules. This suggests that the notion *negation* should be studied within the paradigm of syntagmatic relations (Lyons 1968:73). Such an approach would evidently lead to the analysis of larger units of expression other than the syntactic form *not*.

Evidence in the research project has also revealed that the interaction between the independent variable *Time* and the dependent variable *Interlanguage* is fairly complex. For instance, it is evident that whereas some interlanguage forms are eradicated with great rapidity, there are other interlanguage forms which are slow to be eradicated. The least preferred IL forms were also the first to be eradicated but the unmarked IL forms tended to persist. This seems to suggest that different IL forms have *different critical periods* for eradication. There is need to unravel the hypothesis of different critical periods. Such an approach might also shed some light on the candidates for fossilization.

Besides these proposals for future research, there is need to replicate the study with a more diverse sample because the study was restricted to only three native languages yet there are over forty different languages in Kenya. Furthermore the sample is quite small in relation to the population of children in Kenyan schools. In addition, since the study was restricted to language acquisition within classrooms, it might be necessary to try and pin down the exact causal effects, if any, of classroom input on the interlanguage.

APPENDICES

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APPENDIX A1

Write all your answers on the question paper.
All your writing should be in either PENCIL or BALL POINT PEN.

YOUR NAME_____ AGE_____

SCHOOL_____ CLASS_____

PAPER 1

SECTION A Numbers 1 - 20
Read each sentence carefully.
Choose the correct answer and draw a circle round your choice.

Example: I_____him yesterday A meet C meets
B met D meeting.

The correct answer is B so you should have circled B.

Now do the following:-

1. I thought you _____away on holiday last month.
   A are B was C were D will been.
2. They _____ a serious accident yesterday.
   A had B are having C were having D has.
3. Among the many animals we saw at the Park were big _____
   A wolfs B wolves C wolf D wolfes.
4. The _____donated to the school were put in the library.
   A shelf B shelves C shelfs D shelfes.
5. The farmer fed the _____ which were two months old.
   A calves B calves C calfs D calf
6. The lorry driver always _____ very fast.
   A drives B drive C driving D drived.
7. There were prayers offered in the _____which are at Kabete near Nairobi.
   A churches B church C churchs D churchies.

8. She never married any of her _____

A boy friend B boys friends C boy friend

D boyfriends

9. I know what the word he used _____

A was meaning B is meaning C meant D had meaning

10. The meeting was not started until 10.00 a.m. because several _____had not arrived.

A assistant director C assistants directors

B assistant directors D assistants director

11. The patient_____his head and groaned in pain.

A rised B rose C raised D rosed

12. The _____used to transport food to Nairobi are very big.

A lorries B lorry C lorrys D lorryes

13. She_____a permit from the chief.

A sought B seek C seeked D soughted

14. Our parents gave us _____

A pocket moneys C pockets moneys

B pockets money D pocket money

15. We think it is the _____which lay this type of egg.

A goose B geese C gooses D geeses

16. Why can't you_____me and my sister to the Park?

A took B takes C take D taking

17. We _____the news early yesterday morning

A heard B are hearing C here D hear

18. Ruiru is a small town on the _____of Nairobi.

A outskirt B outskirts C outskirtes D outskirties

19. We have _____ lots of Christmas Carols in our church this year.

A sang B sung C sing D sings.

20. I am to _____ to him this morning.

A writes B wrote C write D written.

SECTION B Numbers 21 - 27

The following sentences are incorrect in one or more places. Rewrite them making the necessary corrections in the spaces below each sentence.

Example. I comes to school every day.

Answer. I come to school every day.

Now do the following:-

21. The thief snatch her bag and running away with it yesterday.

---

22. Does not she visit these school?

---

23. My teacher order me to stand up whenever I made noise.

---

24. The accident horrified all the passer-bys

---

25. I do no know him very well.

---

26. They bought several pair of trouser, shoe and a pair of scissor.

---

27. He did no eat the food which was on the table.

APPENDIX A_2

Write your answers on the question paper.

Your answers must be in either PENCIL or BALL POINT PEN.

YOUR NAME_____ AGE_____

SCHOOL_____ CLASS_____

PAPER 2

SECTION A. Numbers 1 - 8

The following sentences are incorrect in one or more places. Rewrite them making the necessary corrections in the space provided below each sentence.

1. He does not contributed much money.

_____

2. They might have no been going to school.

_____

3. She cut the orange into two halfs and gave it to the children.

_____

4. The barsmaids were upset by the policemens.

_____

5. Didn't they reach Nairobi? They tried but could be there on time.

_____

6. Kamau does not acted well in the theatre.

_____

7. Several black cat attacked the hungry dog which were near the kitchen.

_____

8. My father tell me everything that he hear in the last meeting.

_____

SECTION B Numbers 9 - 18

Read each sentence carefully.
Fill in the gap with a suitable form of the word in brackets.

Example$_1$ I_____him here last night. (see)
Answer (saw)
Example$_2$ They_____in the garden now. (dig)
Answer (are digging)

Now do the following:-

9. What's that boy doing? I think he_____now. (yawn)
10. Our school has two_____(bus) which take the_____(boy) on school trips.
11 They are back home in Kenya now. They_____London last Friday. (leave)
12. He had many_____ and very few friends. (enemy)
13. She was_____in the accident. (injure)
14. Most_____dry during the hot season. (leaf)
15. They_____Nairobi National Park last year (visit)
16. All my father's_____became thinner during the last drought. (cow)
17. Do they_____the prayers on Saturday or Sunday? (say)
18. She has more_____than she can feed now. (child)

SECTION C Numbers 13 - 23

Read the sentences carefully.
Write the word *not* in one of the gaps in each sentence.

Example: The baby_____did_____cry_____at all.

Answer: (We insert *not* after the word 'did':)
(The baby did not cry at all).

Now do the following:

19. They were_____able_____to reach_____the summit of Mt. Kenya.

20. _____The bus_____should_____be late again.

21. They did_____want_____the war to_____to continue.

22. _____I tried_____to look_____at him.

23. _____This building_____is_____very_____beautiful.

APPENDIX A3

Write your answers on the question paper.
Your answers must be in either PENCIL or BALL POINT PEN.

YOUR NAME_____ AGE_____
SCHOOL_____ CLASS_____

PAPER 3
SECTION A Numbers 1 - 10

Read each sentence carefully.
Then write each in the NEGATIVE FORM. In each case you MUST use the word not.

Example: I went to school.
Answer: I did not go to school.
Now do the following:-

1. Maria is a barmaid.

---

2. She left school at the age of 12.

---

3. The ostrich had its beak wide open.

---

4. Maria might want to continue her education.

---

5. I assist him.

---

6. The grasshopper eats grass.

---

7. Which farmer in the district keeps cows and goats?

---

8 Is your headmaster a good man?

---

9. John frightens the children.

---

10. The girl threw the ashes away.

SECTION B Numbers 11 - 20

Now read these sentences.
Then write each in the plural.

Example$_1$ I nearly fainted.
Answer$_1$ We nearly fainted.

Example$_2$ The boy assisted the beggar.
Answer$_2$ The boys assisted the beggars.

Now do the following:

11. My house needs repairing.

---

12. A female flea lays its eggs in the fur of an animal.

---

13. This building is the most beautiful.

---

14. The girl bought a mango, a banana and a tomato.

---

15. The boy threw his stick at the cow.

---

16. Is your ball made of rubber?

---

17 The child suffers from a disease.

---

18 When does a cow produce milk?

---

19. The Chief was absent from the meeting.

---

20. A loaf of bread was stolen by the thief.

SECTION C Numbers 21 - 25

Now write these sentences in the PAST TENSE.

Example$_1$ I kick the dog.
Answer$_1$ I kicked the dog.

Example$_2$ She is writing a letter.
Answer$_2$ She was writing a letter.

Now do the following.

21. School children like milk.
22. My parents pay my school fees.
23. I buy vegetables in the market.
24. We cut the grass everyday.
25. They read the letters very slowly.

APPENDIX A4

All your writing MUST be in either PENCIL or BALLPOINT PEN.

NAME_____ AGE_____

SCHOOL_____ CLASS_____

PAPER 4

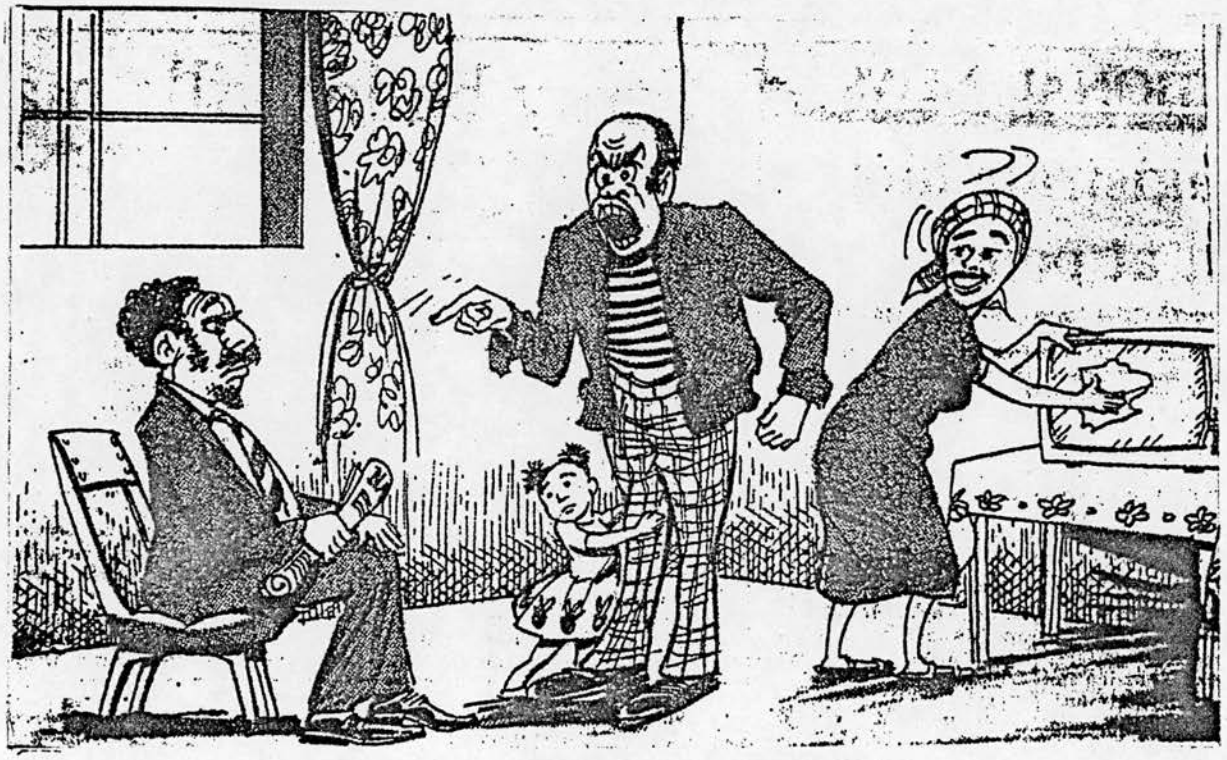
SECTION A Numbers 1 - 10

The pictures below will help you answer the questions.

Use picture 1 to answer Numbers 1 - 4 and Picture 2 to answer Numbers 5 - 10.

The sentences are written in Kiswahili.

Write them out in English in the space provided below.



PICTURE 1

1. Mwanamke aligeuza kichwa na akacheka.

_____

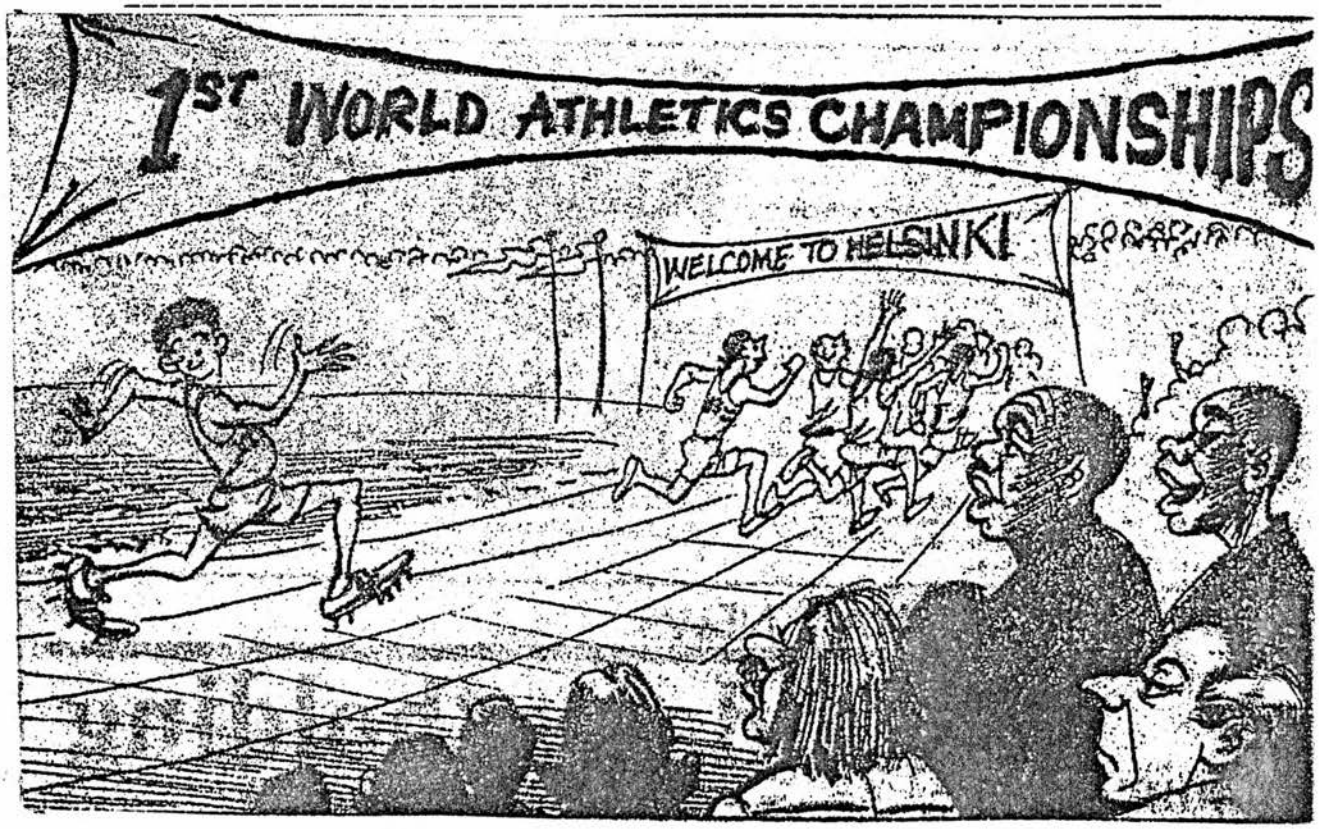
2. Mdomo wa mtu anayesimama si mdogo.

---

3. Kiti kile si kizuri, si kikubwa na kimeinama.

---

4. Nguo za watu hawa si chafu.



PICTURE 2

5. Watu wengi walitazama mashindano.

---

6. Viatu vya mtoto mmoja si vizuri.

---

7. Wale watoto wamevaa nguo nyeupe.

---

8. Watu wawili weupe wana mapua marefu.

---

9. Mtoto aliyenyuma hakushinda.

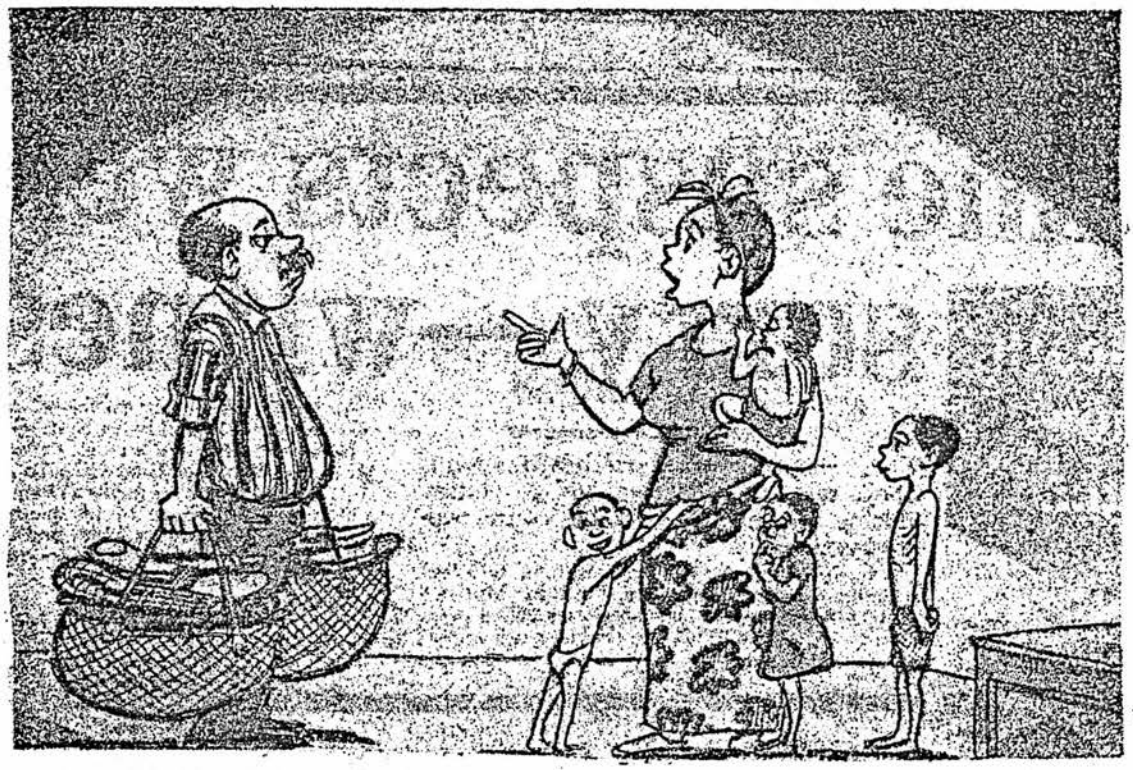
---

10. Kwa nini mtoto yule ana miguu mirefu?

SECTION B

Now look at Picture 3.

Describe what is happening in about 10 lines of English.



PICTURE 3

DESCRIPTION

Now do the same for Picture 4

PICTURE 4

DESCRIPTION

APPENDIX B_1
Students' Number of Correct Items : (Split Half Method)

PILOT SUBJECT	ODD ITEMS X	EVEN ITEMS Y	X^2	Y^2	XY
1	6	8	36	64	48
2	7	5	49	25	35
3	5	6	25	36	30
4	8	6	64	36	48
5	13	8	169	64	104
6	8	16	64	256	128
7	12	7	144	49	84
8	11	16	121	256	176
9	12	14	144	196	168
10	9	12	81	144	108
11	12	14	144	196	168
12	8	11	64	121	88
13	16	9	256	81	144
14	15	11	225	121	165
15	18	23	324	529	414
16	11	14	121	196	154
17	18	23	324	529	414
18	17	20	289	400	340
19	22	19	484	361	418
20	20	21	400	441	420
21	20	20	400	400	400
22	21	18	441	324	378
23	23	24	529	576	552
24	20	23	400	529	460
N = 24	**332**	**348**	**5298**	**5930**	**5444**

APPENDIX B_2 Results of Item Analysis

APPENDIX	ITEM NUMBER	FV	D1
A_1	1	0.7	0.3
	2	0.6	0.4
	3	0.6	0.4
	4	0.7	0.3
	5	0.6	0.4
	6	0.6	0.2
	7	0.3	0.3
	8	0.6	0.2
	9	0.5	0.3
	10	0.4	0.4
	11	0.7	0.3
	12	0.7	0.3
	13	0.5	0.4
	14	0.8	0.2
	15	0.2	0.3
	16	0.6	0.2
	17	0.7	0.3
	18	0.4	0.2
	19	0.2	0.3
	20	0.6	0.4
A_2	9	0.2	0.3
	10	0.6	0.3
	11	0.5	0.3
	12	0.6	0.3
	13	0.4	0.4
	14	0.6	0.3
	15	0.5	0.4
	16	0.5	0.4
	17	0.6	0.3
	18	0.4	0.2
	19	0.7	0.2
	20	0.6	0.3
	21	0.4	0.3
	22	0.5	0.4
	23	0.6	0.3
A_3	1	0.5	0.3
	2	0.7	0.3
	3	0.4	0.4
	4	0.5	0.4
	5	0.7	0.3
	6	0.8	0.2
	7	0.6	0.3
	8	0.7	0.3
	9	0.5	0.4
	10	0.5	0.4
	11	0.8	0.2
	12	0.5	0.4
	13	0.7	0.3
	14	0.6	0.3
	15	0.6	0.3
	16	0.4	0.4
	17	0.7	0.3
	18	0.5	0.4
	19	0.5	0.3
	20	0.4	0.4
	21	0.6	0.3
	22	0.7	0.3
	23	0.4	0.4
	24	0.6	0.3
	25	0.8	0.2
A_4	1	0.5	0.4
	5	0.3	0.3
	7	0.4	0.4
	8	0.7	0.3
	9	0.7	0.3
	10	0.6	0.4

APPENDIX B_2 Pilot Learners' Functor Scores

	L_1/SUBJECT		REG.PAST	IRREG.PAST	NON-PAST	REG.PLU.	IRREG.PAST	NEG
	Luo	1	40	57	64	63	70	64
		2	62	61	58	58	76	63
Time	Kalenjin	3	60	62	78	59	74	68
1		4	59	62	70	64	80	62
	Gikuyu	5	40	35	58	22	56	46
		6	55	58	74	70	68	66
	Luo	7	63	73	67	63	81	67
		8	69	70	86	73	85	79
TIME	Kalenjin	9	73	78	80	80	79	78
2		10	75	77	79	78	80	69
	Gikuyu	11	67	74	80	79	81	73
		12	50	62	79	70	79	63
	Luo	13	73	78	88	80	85	84
		14	70	77	82	79	86	79
TIME	Kalenjin	15	66	73	85	73	82	80
3		16	69	63	79	69	83	68
	Gikuyu	17	68	75	88	79	87	84
		18	65	69	80	78	79	80
	Luo	19	81	86	89	89	89	100
		20	79	82	90	95	100	90
TIME	Kalenjin	21	86	82	83	91	88	86
4		22	81	83	91	88	90	92
	Gikuyu	23	80	85	97	86	88	92
		24	81	80	87	80	88	90

APPENDIX B_4 Pilot Group Functor Scores And Ranks of Functors.

GROUP	REGULAR PAST		IRREGULAR PAST		NON PAST TENSE		REGULAR PLURAL		IRREGULAR PLURAL		NEG	
	SCORE	RANK	SCORE	RANK	SCORE	RANK	SCORE	RANK	SCORE	RANK	SCORE	RANK
TIME 1	53	6	56	4.5	67	2	56	4.5	71	1	62	3
TIME 2	66	6	72	4.5	79	2	74	3	81	1	72	4.5
TIME 3	69	6	73	5	84	1.5	76	4	84	1.5	79	3
TIME 4	81	6	83	5	90	3	88	4	91	2	92	1
T1 LUO	51	6	59	5	61	3.5	61	3.5	73	1	64	2
T1 KALENJIN	60	6	62	4.5	74	2	62	4.5	77	1	65	3
T1 GIKUYU	48	4	47	5	61	2	46	6	62	1	56	3
T2 LUO	66	6	72	4	77	2	68	5	83	1	73	3
T2 KALENJIN	74	5.5	78	4	80	1.5	79	3	80	1.5	74	5.5
T2 GIKUYU	59	6	68	4.5	80	1.5	75	3	80	1.5	68	4.5
T3 LUO	72	6	78	5	85	2	80	4	86	1	82	3
T3 KALENJIN	68	5.5	68	5.5	82	2	71	4	83	1	74	3
T3 GIKUYU	67	6	72	5	84	1	79	4	83	2	82	3
T4 LUO	80	6	84	5	90	4	92	3	95	1.5	95	1.5
T4 KALENJIN	84	5	83	6	87	4	90	1	89	2.5	89	2.5
T4 GIKUYU	81	6	83	4.5	92	1	83	4.5	88	3	91	2
ALL LUO	67	6	73	5	78	2.5	75	4	84	1	78	2.5
ALL KALENJIN	71	6	73	5	81	2	75	3.5	82	1	75	3.5
ALL GIKUYU	63	6	67	5	80	1	71	4	78	2	74	3
ALL SUBJECTS	67	6	72	5	80	2	74	3	82	1	76	4

APPENDIX B5 Implicational Results For Pilot Subjects.

RANK	(1) IRREG PLURAL	(2) NON_ PAST	(3) REG PLURAL	(4) NEG	(5) IRREG PAST	(6) REG PAST	1	2	3	4	5	6
1	100	90	95	90	82	79	1	1	1	1	1	0
2	89	89	89	100	86	81	1	1	1	1	1	1
3	88	97	86	92	85	80	1	1	1	1	1	1
4	90	91	88	92	83	81	1	1	1	1	1	1
5	88	83	91	86	82	86	1	1	1	1	1	1
6	88	87	80	90	80	81	1	1	1	1	1	1
7	85	88	80	84	78	73	1	1	1	1	0	0
8	87	88	79	84	75	68	1	1	0	1	0	0
9	86	82	79	79	77	70	1	1	0	0	0	0
10	79	80	80	78	78	73	0	1	1	0	0	0
11	85	86	73	79	70	69	1	1	0	0	0	0
12	82	85	73	80	73	66	1	1	0	1	0	0
13	80	79	78	69	77	75	1	0	0	0	0	0
14	81	80	79	73	74	67	1	1	0	0	0	0
15	79	80	78	80	69	65	0	1	0	1	0	0
16	83	79	69	68	63	69	1	0	0	0	0	0
17	81	67	63	67	73	63	1	0	0	0	0	0
18	79	79	70	63	62	50	0	0	0	0	0	0
19	74	78	59	68	62	60	0	0	0	0	0	0
20	80	70	64	62	62	59	1	0	0	0	0	0
21	68	74	70	66	58	55	0	0	0	0	0	0
22	76	58	58	63	61	62	0	0	0	0	0	0
23	70	64	63	64	57	40	0	0	0	0	0	0
24	56	58	22	46	35	40	0	0	0	0	0	0
						ERRORS	3	1	2	2	0	1
						CORRECT	16	14	8	10	6	5

APPENDIX C_1 Individual Subjects Functor Scores

TIME 1 GROUP A

SUBJECT	REG. PAST	IRREG. PAST	NON-PAST	REG. PLU	IRREG PLU	NEG
1	50	62	88	70	83	75
2	78	74	70	76	85	76
3	55	58	75	70	68	66
4	29	35	58	22	56	46
5	50	44	74	65	68	65

TIME 2

1	61	47	56	52	70	65
2	67	73	80	79	81	71
3	91	80	85	83	94	86
4	63	62	79	70	79	69
5	30	47	56	43	63	55

TIME 3

1	52	65	67	65	75	67
2	78	79	83	74	93	89
3	69	67	78	64	83	70
4	59	61	76	72	71	63
5	50	54	59	58	70	76

TIME 4

1	63	82	94	82	83	86
2	90	100	96	95	100	91
3	82	90	88	93	100	97
4	90	94	88	89	93	97
5	88	87	89	85	89	100

APPENDIX C, Individual Subjects Functor Scores

TIME 1 GROUP A

SUBJECT	REG. PAST	IRREG. PAST	NON-PAST	REG. PLU	IRREG PLU	NEG
1	50	62	88	70	83	75
2	78	74	70	76	85	76
3	55	58	75	70	68	66
4	29	35	58	22	56	46
5	50	44	74	65	68	65

TIME 2

1	61	47	56	52	70	65
2	67	73	80	79	81	71
3	91	80	85	83	94	86
4	63	62	79	70	79	69
5	30	47	56	43	63	55

TIME 3

1	52	65	67	65	75	67
2	78	79	83	74	93	89
3	69	67	78	64	83	70
4	59	61	76	72	71	63
5	50	54	59	58	70	76

TIME 4

1	63	82	94	82	83	86
2	90	100	96	95	100	91
3	82	90	88	93	100	97
4	90	94	88	89	93	97
5	88	87	89	85	89	100

APPENDIX C_1

TIME 1 GROUP B

SUBJECT	REG. PAST	IRREG. PAST	NON-PAST	REG. PLU	IRREG. PLU	NEG
1	61	44	64	60	57	70
2	68	65	80	67	81	80
3	33	41	66	61	52	46
4	63	63	78	59	74	68
5	63	60	61	64	80	70
TIME 2						
1	50	69	71	66	81	76
2	60	71	76	74	90	80
3	85	72	87	83	94	83
4	82	79	88	83	88	77
5	80	78	74	78	82	73
TIME 3						
1	89	89	93	79	98	81
2	85	88	95	90	100	81
3	63	69	70	61	83	68
4	80	78	91	86	85	83
5	73	66	85	72	82	84
TIME 4						
1	85	86	82	76	80	87
2	53	60	81	66	75	83
3	81	86	83	91	88	84
4	86	88	81	80	92	86
5	97	95	95	88	90	92

APPENDIX C_1

TIME 1 GROUP C

SUBJECT	REG. PAST	IRREG. PAST	NON-PAST	REG. PLU	IRREG. PLU	NEG
1	60	61	58	58	87	63
2	50	57	64	63	69	63
3	88	80	91	78	83	88
4	58	73	73	70	80	68
5	65	72	82	77	81	73
TIME 2						
1	60	55	77	70	75	74
2	77	79	82	86	85	86
3	78	59	76	81	79	77
4	50	53	78	64	71	72
5	53	53	55	60	73	70
TIME 3						
1	70	77	79	79	82	85
2	73	78	85	80	89	90
3	80	82	84	79	85	88
4	67	76	73	78	84	73
-	-	-	-	-	-	-
TIME 4						
1	94	85	98	86	88	97
2	78	81	87	73	88	86
3	89	83	91	85	87	89
4	88	84	90	90	97	95
5	63	74	67	61	80	67

APPENDIX C_2

(i) Overall Group Functor Scores

GROUP	REG. PAST	IRREG. PAST	NON-PAST	REG. PLU	IRREG. PLU	NEG
ALL SUBJECTS	69	71	79	73	82	77
A	65	68	77	70	80	76
B	72	72	80	74	83	77
C	71	72	78	75	82	79
TIME 1	58	59	72	64	74	68
2	66	65	75	72	80	74
3	71	74	80	74	84	78
4	82	85	87	83	89	89
A TIME 1	52	55	73	61	72	66
2	62	62	71	65	74	69
3	62	65	73	67	78	73
4	83	91	91	89	93	94
B TIME 1	58	55	70	62	69	67
2	71	74	79	77	87	78
3	78	78	87	78	90	79
4	80	83	84	80	85	86
C TIME 1	64	69	74	69	80	71
2	64	60	74	72	77	76
3	73	78	80	79	85	84
4	82	81	87	79	88	87

(ii) · Rank of Functors Based On Scores In Appendix C_2 (i)

GROUP	REG. PAST	IRREG. PAST	NON-PAST	REG. PLU	IRREG. PLU	NEG
ALL SUBJECTS	6	5	2	4	1	3
A	6	5	2	4	1	3
B	5.5	5.5	2	4	1	3
C	6	5	3	4	1	2
TIME 1	6	5	2	4	1	3
2	5	6	2	4	1	3
3	6	4.5	2	4.5	1	3
4	6	4	3	5	1.5	1.5

APPENDIX C_3 Results of ANOVA On Paired Structures

(i) REGULAR PAST TENSE AND IRREGULAR PAST TENSE

SOURCE	DF	SS	MS	F
AGE	3	158.4	52.8	0.79
ERROR	56	3746.8	66.9	
TOTAL	59	3905.2		

(ii) IRREGULAR PAST TENSE AND REGULAR PLURAL

AGE	3	698.1	232.7	4.58
ERROR	56	2877.2	51.4	
TOTAL	59	3575.3		

(iii) NEGATION AND REGULAR PLURAL

AGE	3	107.8	35.9	0.60
ERROR	56	3340.1	59.6	
TOTAL	59	3447.9		

(iv) NON-PAST AND NEGATION

AGE	3	289.7	96.6	1.70
ERROR	56	3176.3	56.7	
TOTAL	59	3466.0		

(v) IRREGULAR PLURAL AND NON-PAST TENSE

AGE	3	212.6	70.9	1.03
ERROR	56	3856.1	68.9	
TOTAL	59	4068.7		

APPENDIX D_1 Interlanguage Forms From The Task In Section 5.1:1

IL STRUCTURE	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
rised	A	2	1	1	1
	B	1	0	2	1
	C	1	1	0	1
rosed	A	0	2	1	1
	B	1	1	0	0
	C	1	1	0	1
rose	A	2	0	0	0
	B	0	1	0	0
	C	1	2	1	0
raised	A	1	2	3	3
	B	3	3	3	4
	C	2	1	3	3

APPENDIX D_2 Interlanguage Forms From The Tasks In Section 5.1:3

IL. STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
	A	2	1	0	0
...was injuring/visiting...	B	1	0	0	0
	C	1	0	0	0
	A	1	1	0	1
...was injures/likes...	B	0	1	1	0
	C	1	2	0	1
	A	10	10	16	12
...injured/visited...	B	11	13	12	13
	C	9	10	11	15
	A	1	1	1	0
...visit/like...	B	2	3	2	1
	C	1	2	0	0

APPENDIX D_3 IL Forms Based On Tasks In Section 5.1:4

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
woman turn and laugh..	A	9	4	2	0
	B	5	4	3	4
	C	4	6	2	0
woman turning and laughing..	A	1	0	0	0
	B	1	0	0	0
	C	0	0	0	1
woman turns and laughs..	A	0	3	0	0
	B	0	1	0	0
	C	0	0	0	0
people are see/are watch..	A	1	0	1	0
	B	0	0	1	0
	C	1	0	3	0
people were looking/was seeing	A	0	0	2	0
	B	0	1	0	1
	C	3	2	0	2
people watched/woman turned	A	4	8	10	15
	B	9	9	10	10
	C	7	7	8	12

APPENDIX E$_1$ IL Forms Based On Tasks In Section 5.2:1

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...are having...	A	6	4	3	1
...are hearing.../is meaning...	B	4	1	2	1
	C	7	5	0	1
She seek a permit...	A	3	2	1	0
..are hear news...	B	2	2	3	1
We have sing...	C	4	3	0	1
	A	3	2	2	1
She seeked a permit...	B	1	2	2	0
	C	1	1	0	2
	A	3	2	0	0
She soughted a permit...	B	0	0	1	2
	C	3	1	0	1
	A	4	4	2	0
We have sang...	B	2	3	4	4
	C	2	3	4	0
He had...	A	10	12	16	19
...word meant...	B	10	14	14	25
...sought a permit...	C	7	12	15	16

APPENDIX E_2 IL Forms Based On The Tasks In Section 5.2:2

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...her bag and run yesterday.	A	6	4	2	1
...father tell me...	B	7	6	2	2
	C	6	8	3	1
her bag and running...yesterday.	A	2	0	1	0
	B	2	0	0	0
	C	0	0	0	0
father tells...he hears...	A	1	0	0	1
	B	1	0	2	0
	C	0	1	1	0
and ran...,father told... he heard....	A	6	8	9	13
	B	5	7	9	12
	C	7	6	10	14
that he heared	A	0	0	1	0

APPENDIX E3 IL Forms Based On Tasks In Section 5.2:3

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...leaved/lived London...	A	8	5	5	4
...prayed/paied/payid fees..					
...cutted/cuted grass	B	6	7	6	0
...buyed vegetables....					
...readed letters....	C	9	4	3	2
...leaf/leve/live London	A	4	2	1	1
...parents can pay/pay fees...					
...buy vegetables	B	3	2	0	1
...read/...are read letters...	C	4	3	2	0
...leaves London....	A	2	2	1	0
...cuts grass....	B	0	0	0	0
...reads letters...	C	1	2	1	0
...was leaving London....	A	0	0	0	0
...were cutting grass....	B	0	1	0	3
...were/was reading letters....	C	0	0	0	1
...cutting grass....	A	0	0	1	0
...living London....	B	0	0	0	1
...reading letters....	C	0	0	1	1
...had left London....	A	0	1	1	1
...had paid fees....	B	1	0	2	3
...had read letters....	C	0	0	1	2

APPENDIX E_4 IL Forms Based On Task In Section 5.2:4

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...it bend...,it look floor...	A	3	3	2	2
...it is bend...it is fall...	B	1	5	2	0
it is upside down...	C	2	2	5	0
it is bending..,it is standing	A	1	0	0	2
it is going down, it is benting	B	2	0	2	1
	C	1	1	0	0
..it have not stayed well...	A	0	1	0	1
it is folded....	B	0	0	0	0
	C	0	0	0	0
...it has bend....	A	0	0	0	0
..it has a bent/bend up	B	0	0	1	0
...it bends	C	0	0	0	0
	A	2	1	1	2
it is bent	B	2	0	1	3
	C	1	2	0	1

APPENDIX E_5 IL Forms Based On Tasks In Sector 5.2:5.

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...he carry baskets,..	A	3	1	0	1
baby hold the mother...	B	2	3	1	0
they stand at bus stop	C	2	2	0	0
...he come home...					
...he reading the paper...	A	2	1	0	0
...he smoking cigaret...	B	0	2	0	0
	C	0	2	0	0
...they talks about...	A	1	0	0	1
flowers grows near...	B	1	0	1	0
the man stands at bus stop....	C	2	1	0	0

APPENDIX F1
Interlanguage Forms Based On Tasks In Section 5.3:1

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
driver always drived...	A	1	0	0	0
	B	2	0	0	0
	C	1	0	0	0
driver always drive...	A	0	0	1	1
	B	0	0	1	2
	C	2	1	0	2
driver always driving...	A	1	0	0	1
	B	0	0	0	0
	C	0	0	0	0
...can't you takes... I am to writes...	A	1	0	2	1
	B	0	0	2	0
	C	0	2	2	1
...can't you took... ...I am to wrote...	A	1	3	0	1
	B	0	2	1	0
	C	1	0	2	0

APPENDIX F_2
Interlanguage Forms Based On Tasks In Section 5.3:2

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...does contributed/acted...	A	2	3	4	2
	B	1	2	4	0
	C	3	2	1	0
...do contributed/acted...	A	3	1	0	0
	B	3	0	0	1
	C	0	1	0	0
...did contributed/acted...	A	2	2	0	0
	B	0	1	0	0
	C	3	1	0	0
...was contribute/act	A	1	0	0	0
	B	0	0	0	0
	C	0	1	0	0

APPENDIX F₃
Interlanguage Forms Based On Tasks In Section 5.3:3

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
	A	1	1	0	0
...he yawned now.	B	2	0	0	0
	C	0	0	0	0
	A	0	1	1	0
...he yawning now.	B	1	0	2	0
	C	2	1	0	0
{was}	A	0	1	0	0
...he yawning now.	B	0	1	1	0
{had}	C	0	0	0	0
	A	0	0	2	0
...he yawns now.	B	0	0	0	0
	C	0	0	0	0
	A	1	1	0	0
...he yawn now.	B	2	0	0	1
	C	1	0	0	0
	A	2	0	0	0
he is _____	B	0	0	0	0
	C	0	0	0	0

Target 1, he is yawning now,

	A	1	0	1	0
Do they saved...	B	0	0	1	0
	C	0	0	0	1
	A	0	0	1	0
Do they saying...	B	0	0	0	1
	C	0	0	0	1
	A	1	3	0	0
Do they says...	B	2	0	0	1
	C	1	4	0	1
	A	2	2	2	1
Do they said...	B	2	1	0	1
	C	1	3	2	0

Target 2, Do they say...

APPENDIX F_4
Interlanguage Forms Based On Tasks In Section 5.3:4

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...did eats grass...	A	6	5	3	0
...did keeps cows...	B	4	4	2	1
...did frightens	C	9	10	3	2
...did ate grass...	A	1	0	1	0
...did kept cows...	B	1	1	0	1
...did frightened...	C	2	0	1	0
...do eats grass...	A	3	2	0	0
...do keeps cows...	B	5	3	2	1
...do frightens...	C	1	2	1	0
...does eats grass...	A	0	1	5	0
...does keeps cows...	B	1	3	2	3
...does frightens...	C	0	2	2	3
...do eat grass...	A	2	2	3	0
...do keep cows...	B	1	2	1	1
...do frighten...	C	0	1	0	1
...did eat grass...	A	2	3	0	0
...did keep cows...	B	3	1	0	0
...did frighten	C	1	0	1	1

Other IL Forms

INTERLANGUAGE STRUCTURE	FREQ.	AT TIME
...grasshopper not eating grass	1	4
...farmer_____is keeps	2	1 and 2
...farmer_____	3	1
...no he can. (for Task 3)	1	1
John do_____(for Task 3)	1	2
...farmer does_____	2	4

APPENDIX F_5
Interlanguage Forms Based On Tasks In Section 5.3:5

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
Why do child have...	A	3	1	2	1
children have wear...	B	2	2	1	0
...	C	3	0	0	0
Children was wearing...	A	1	1	2	0
	B	1	0	0	0
	C	2	1	0	0
Children have wore...	A	1	0	2	0
	B	2	0	0	0
	C	0	0	0	0
Why childs have...	A	2	1	2	0
Children wear. ..	B	1	1	2	0
...man stand...	C	3	2	1	1
Why does child has...	A	0	1	2	0
	B	1	0	0	1
	C	0	1	0	0
Why is child {with...	A	1	1	0	0
{have...	B	2	2	2	1
	C	2	2	2	2
Why did child have...	A	1	1	0	1
Children was wear...	B	0	1	1	0
	C	0	0	1	0
Why is child having...	A	1	1	2	2
	B	1	2	1	0
	C	1	1	0	1
Children wore...	C	0	2	1	0
Children have wears...	B	1	0	0	0
...man who is_____	B	0	1	0	0
...mouth for person was...	A	0	1	0	0
...the man_____	A	0	1	0	0
...the man s_____	C	0	1	0	0
...child wearing	A	0	1	0	0

APPENDIX F_6
Interlanguage Forms Based On Tasks In Section 5.3:6

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
	A	5	8	4	1
...man stand/child catch...	B	3	3	3	3
her mother...	C	5	8	5	0
	A	1	0	0	0
...girl standing...	B	0	0	1	0
	C	0	0	0	0
	A	2	2	0	0
...the woman is {talk...	B	1	2	1	0
{wear...	C	1	0	0	0
	A	0	0	0	0
...the woman was talk...	B	1	0	0	1
	C	0	0	0	0
	A	0	0	0	0
...the man was talked...	B	1	0	1	0
	C	0	0	0	0
	A	3	0	0	0
...she is weared...	B	1	0	0	1
	C	2	0	0	0

APPENDIX G_1
Interlanguage Forms Based On Tasks In Section 5.4:1

TARGET FORMS	IL FORMS	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...churches	...church.....	A	6	5	5	4
		B	4	4	4	3
		C	5	5	3	3
...churches...	churchs...	A	0	0	1	0
		B	0	0	0	0
		C	0	1	0	0
...churches...	churchies	A	2	1	0	0
		B	1	0	0	0
		C	1	0	1	0
boyfriends ... ...assistant directors...	...boyfriend assistant- director	A	2	4	1	0
		B	2	1	2	0
		C	3	3	2	2
outskirts	outskirtes	A	0	0	0	0
		B	0	0	0	0
		C	0	2	0	0
...boyfriends... ...assistant - directors...	...boysfriend... ...assistants - director	A	0	0	2	2
		B	1	1	1	2
		C	0	1	3	1
boyfriends... assistant - director.	...boysfriends ...assistants - directors.	A	1	2	4	0
		B	2	3	1	0
		C	2	2	2	0

APPENDIX G_2
Interlanguage Forms Based On Tasks In Section 5.4:2

TARGET FORMS	IL FORMS	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
these schools	these school.	A	15	10	4	1
several black	...black cat	B	18	13	2	0
cats...		C	14	15	2	1
...pairs of	pairs of	A	2	3	4	0
trousers	trouser	B	3	4	2	1
		C	3	2	2	0
		A	2	1	0	0
a pair of	...scissor	B	1	0	0	0
scissors.		C	2	0	0	0

APPENDIX G_3
Interlanguage Forms Based On Tasks In Section 5.4:3

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
	A	2	4	4	0
...house need repairing...	B	2	3	4	3
	C	4	3	4	4
	A	4	3	2	1
...females flea lays...	B	3	4	4	4
	C	5	5	4	3
	A	1	0	2	0
...these building is the...	B	3	2	2	2
	C	4	2	1	2
	A	2	1	1	0
...fur of an animals...	B	1	1	1	0
	C	0	2	1	0
	A	1	0	0	1
...a mangos...and a tomatos...	B	1	1	0	1
	C	0	0	0	1
	A	2	1	1	0
...boys threw his stick	B	3	0	0	0
	C	2	1	0	0
	A	3	3	1	1
Is your balls made...	B	5	2	1	2
	C	3	2	2	1
	A	1	3	1	0
..childrens suffer from disease	B	3	1	0	1
	C	2	1	0	1
	A	3	2	0	1
When does cows produce...	B	2	4	4	3
	C	5	3	2	3
	A	3	1	2	1
...the chieves were...	B	2	1	0	2
	C	4	1	1	1

APPENDIX G4
Interlanguage Forms Based On Tasks In Section 5.4:4

TARGET FORMS	IL FORMS	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
		A	1	1	2	3
peoples' clothes	peoples' cloths	B	2	2	4	2
		C	3	1	0	2
		A	4	0	1	0
peoples' clothes	peoples' cloth	B	5	2	0	1
		C	4	1	3	0
...watched competitions	...competition	A	6	7	4	1
child's shoes...	...shoe	B	4	5	3	5
...long noses	...long nose	C	5	6	3	3
		A	0	1	0	1
(targets above)	(message abandoned)	B	2	0	0	0
		C	0	1	0	1

APPENDIX H
IL FORMS BASED ON TASKS IN SECTION 5.5:1 - 5.5:6

INTERLANGUAGE STRUCTURES	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
...most leaf...					
...wolf...	A	14	10	5	3
...shelf...	B	13	8	4	3
...lorry...					
two half...	C	11	7	6	2
...many enemys,...wolfs,	A	16	10	8	4
mans...leafs...child's, lorrys	B	12	13	6	3
gooses...calfs...	C	17	15	6	3
...leafes, wolfes,...lorryes	A	1	2	1	1
...shelfes...	B	2	1	0	1
	C	1	0	1	0
....policemens...,peoples...	A	9	7	3	2
...childrens...mens...geeses	B	7	8	3	3
	C	7	5	6	4

APPENDIX I
Interlanguage Forms Based On Tasks In Section 5.6:3

INTERLANGUAGE SYNTAX	GROUP	TIME 1	TIME 2	TIME 3	TIME 4
ØAux + Main Verb + Neg +...	A	9	9	9	3
	B	5	6	7	4
	C	6	7	5	7
Aux + Main Verb + Neg...	A	9	8	6	2
	B	8	1	11	0
	C	7	7	4	2
Neg + Subject + Main Verb	A	9	11	6	1
	B	6	7	5	2
	C	9	10	4	0
Question (be + n't) + Subj + Neg + Adj	A	1	1	0	0
	B	0	2	0	0
	C	0	0	0	0
Question To Statement inversion and then negation of statement	A	1	0	0	0
	B	2	0	0	0
	C	2	1	0	0
Neg + Aux + Main Verb +...	A	3	3	1	0
	B	4	0	1	0
	C	1	0	2	0
Ø Neg + Main Verb	A	1	0	0	0
	B	1	1	0	0
	C	2	0	0	0

APPENDIX J,
Implicational Scaling At Time 1

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
6Ki3	1	83	91	88	78	80	88
6L2	2	85	70	76	76	74	78
6Ki5	3	81	82	73	77	72	65
6Ka2	4	81	80	80	67	65	68
6L1	5	83	88	75	70	62	50
6Ki4	6	80	73	68	70	73	58
6Ka4	7	74	78	68	59	63	63
6Ka5	8	80	70	61	64	60	63
6L3	9	68	75	66	70	58	55
6Ki1	10	87	63	58	58	61	60
6L5	11.5	68	74	65	65	44	50
6i2	11.5	69	63	63	63	57	50
6Ka1	13	57	64	70	60	44	61
6Ka3	14	52	66	46	61	41	33
6L4	15	56	58	46	22	35	29

Quantitative Table

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
6Ki3	1	1	1	1	0	1	1
6L2	2	1	0	0	0	0	0
6Ki5	3	1	1	0	0	0	0
6Ka2	4	1	1	1	0	0	0
6L1	5	1	1	0	0	0	0
6Ki4	6	1	0	0	0	0	0
6Ka4	7	0	0	0	0	0	0
6Ka5	8	1	0	0	0	0	0
6L3	9	0	0	0	0	0	0
6Ki1	10	1	0	0	0	0	0
6L5	11.5	0	0	0	0	0	0
6Ki2	11.5	0	0	0	0	0	0
6Ka1	13	0	0	0	0	0	0
6Ka3	14	0	0	0	0	0	0
6L4	15	0	0	0	0	0	0
ERRORS		2	1	1	1	0	0
CORRECT		2	4	2	0	1	1

Binary Table

APPENDIX J_2
Implicational Scaling At Time 2

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
7L3	1	94	85	86	83	91	80
7Ka3	2	94	87	83	83	85	72
7Ka4	3	88	88	77	83	82	79
7Ki1	4	85	82	86	86	77	79
7Ka5	5	82	74	73	78	80	78
7L2	6.5	81	80	71	79	67	73
7Ka2	6.5	90	76	80	74	60	71
7Ki3	8	79	76	77	81	78	59
7L4	9	79	79	69	70	63	62
7Ka1	10	81	71	76	66	50	69
7Ki1	11	75	77	74	70	60	55
7Ki4	12	71	78	72	64	50	53
7Ki5	13	73	55	70	60	50	53
7L1	14	70	56	65	52	61	47
7L5	15	63	56	55	43	30	47

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
7L3	1	1	1	1	1	1	1
7Ka3	2	1	1	1	1	1	0
7Ka4	3	1	1	0	1	1	0
7Ki2	4	1	1	1	1	0	0
7Ka5	5	1	0	0	0	1	0
7L2	6.5	1	1	0	0	0	0
7Ka2	6.5	1	0	1	0	0	0
7Ki3	8	0	0	0	1	0	0
7L4	9	0	0	0	0	0	0
7Ka1	10	1	0	0	0	0	0
7Ki1	11	0	0	0	0	0	0
7Ki4	12	0	0	0	0	0	0
7Ki5	13	0	0	0	0	0	0
7L1	14	0	0	0	0	0	0
7L5	15	0	0	0	0	0	0
ERRORS		2	1	2	1	1	0
CORRECT		8	5	4	5	4	1

APPENDIX J3
Implicational Scaling At Time 3

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
8Ka2	1	100	95	81	90	88	85
8Ka1	2	98	93	81	79	89	89
8Ka4	3	85	91	83	86	78	80
8Ki3	4	85	84	88	79	82	80
8L2	5	93	83	89	74	79	78
8Ki2	6	89	85	90	80	78	73
8Ki1	7	82	79	85	79	77	70
8Ki4	8	84	73	73	78	76	67
8Ka5	9	82	85	84	72	66	73
8L3	10	83	78	70	64	67	69
8Ka3	11	83	70	68	61	69	63
8L4	12	71	76	63	72	61	59
8L1	13	75	67	67	65	65	52
8L5	14	70	59	76	58	54	50

Quantitative Table

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
8Ka2	1	1	1	1	1	1	1
8Ka1	2	1	1	1	0	1	1
8Ka4	3	1	1	1	1	0	1
8Ki3	4	1	1	1	0	1	1
8L2	5	1	1	1	0	0	0
8Ki2	6	1	1	1	1	0	0
8Ki1	7	1	0	1	0	0	0
8Ki4	8	1	0	0	0	0	0
8Ka5	9	1	1	1	0	0	0
8L3	10	1	0	0	0	0	0
8Ka3	11	1	0	0	0	0	0
8L4	12	0	0	0	0	0	0
8L1	13	0	0	0	0	0	0
8L5	14	0	0	0	0	0	0
ERRORS		0	2	1	3	1	0
CORRECT		11	7	8	3	3	4

Binary Table

APPENDIX J4
Implicational Scaling At Time 4

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
FL2	1	91	100	96	100	95	90
FKa5	2	92	90	95	95	88	97
FKi1	3	97	88	98	85	86	94
FL4	4	97	93	88	94	89	90
FL3	5	97	100	88	90	93	82
FKi4	6	95	97	90	84	90	88
FKi3	7	89	87	91	83	85	89
FL5	8	100	89	89	87	85	89
FKa3	9.5	84	88	83	86	91	81
FKa4	9.5	86	92	81	88	80	86
FKa1	11	87	80	82	86	76	83
FKi2	12	86	88	87	81	73	78
FL1	13	86	83	94	82	82	63
FKa2	14	83	75	81	60	66	53
FKi5	15	67	80	67	74	61	63

Quantitative Table

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
FL2	1	1	1	1	1	1	1
Fka5	2	1	1	1	1	1	1
FKi1	3	1	1	1	1	1	1
FL4	4	1	1	1	1	1	1
FL3	5	1	1	1	1	1	1
FKi4	6	1	1	1	1	1	1
FKi3	7	1	1	1	1	1	1
FL5	8	1	1	1	1	1	1
FKa3	9.5	1	1	1	1	1	1
FKa4	9.5	1	1	1	1	1	1
FKa1	11	1	1	1	1	0	1
FKi2	12	1	1	1	1	0	0
FL1	13	1	1	1	1	1	0
FKa2	14	1	0	1	0	0	0
FKi5	15	0	1	0	0	0	0
ERRORS		1	1	0	0	2	0
CORRECT		14	14	14	13	11	11

Binary Table

APPENDIX J_5
IMPLICATIONAL SCALING: ALL GROUP A SUBJECTS

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
FL2	1	100	96	91	95	100	90
FL4	2	93	88	97	89	94	90
FL3	3	100	88	97	93	90	82
FL5	4	89	89	100	85	87	89
7L3	5	94	85	86	83	80	91
8L2	6	93	83	89	74	79	78
FL1	7	83	94	86	82	82	63
6L2	8	85	70	76	76	74	78
7L2	9	81	80	71	79	73	67
8L3	10	83	78	70	64	67	69
6L1	11	83	88	75	70	62	50
7L4	12	79	79	69	70	62	63
8L4	13	71	76	63	72	61	59
6L3	14	68	75	66	70	58	55
8L1	15	71	67	67	65	65	52
8L5	16	70	59	76	58	54	50
6L5	17	68	74	65	65	44	50
7L1	18	70	56	65	52	47	61
7L5	19	63	56	55	43	47	30
6L4	20	56	58	46	22	35	29

(i) Quantitative Table

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
FL2	1	1	1	1	1	1	1
FL4	2	1	1	1	1	1	1
FL3	3	1	1	1	1	1	1
FL5	4	1	1	1	1	1	1
7L3	5	1	1	1	1	1	1
8L2	6	1	1	1	0	0	0
FL1	7	1	1	1	1	1	0
6L2	8	1	0	0	0	0	0
7L2	9	1	1	0	0	0	0
8L3	10	1	0	0	0	0	0
6L1	11	1	1	0	0	0	0
7L4	12	0	0	0	0	0	0
8L4	13	0	0	0	0	0	0
6L3	14	0	0	0	0	0	0
8L1	15	0	0	0	0	0	0
8L5	16	0	0	0	0	0	0
6L5	17	0	0	0	0	0	0
7L1	18	0	0	0	0	0	0
7L5	19	0	0	0	0	0	0
6L4	20	0	0	0	0	0	0
ERRORS		0	2	0	1	1	0
CORRECT		11	9	7	6	6	5

TOTAL ERRORS = 4 TOTAL CORRECT = 44

(ii) Binary Table

APPENDIX J$_6$
IMPLICATIONAL SCALING: ALL GROUP B SUBJECTS

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
Fka5	1	90	95	92	88	97	95
8Ka2	2	100	95	81	90	85	88
8Ka1	3	98	93	81	79	89	89
FKa3	4.5	88	83	84	91	81	86
FKa4	4.5	92	81	86	80	86	88
7Ka3	6	94	87	83	83	85	72
8Ka4	7	85	91	83	86	80	78
7Ka4	8	88	88	77	83	82	79
FKa1	9	80	82	87	76	83	86
7Ka5	10	82	74	73	78	80	78
8Ka5	11	82	85	84	72	73	66
7Ka2	12	90	76	80	74	60	71
6Ka2	13	81	80	80	67	68	65
FKa2	14	75	81	83	66	53	60
8Ka3	15	83	70	68	61	63	69
7Ka1	16	81	71	76	66	50	69
6Ka4	17	74	78	68	59	63	63
6Ka5	18	80	70	61	64	63	60
6Ka1	19	57	64	70	60	61	44
6Ka3	20	52	66	46	61	33	41

Quantitative Table

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
Fka5	1	1	1	1	1	1	1
8Ka2	2	1	1	1	1	1	1
8Ka1	3	1	1	1	0	1	1
FKa3	4.5	1	1	1	1	1	1
FKa4	4.5	1	1	1	1	1	1
7Ka3	6	1	1	1	1	1	0
8Ka4	7	1	1	1	1	1	0
7Ka4	8	1	1	0	1	1	0
FKa1	9	1	1	1	0	1	1
7Ka5	10	1	0	0	0	1	0
8Ka5	11	1	1	1	0	0	0
7Ka2	12	1	0	1	0	0	0
6Ka2	13	1	1	1	0	0	0
FKa2	14	0	1	1	0	0	0
8Ka3	15	1	0	0	0	0	0
7Ka1	16	1	0	0	0	0	0
6Ka4	17	0	0	0	0	0	0
6Ka5	18	1	0	0	0	0	0
6Ka1	19	0	0	0	0	0	0
6Ka3	20	0	0	0	0	0	0
ERRORS		2	2	2	3	0	1
CORRECT		16	12	12	7	10	6

Binary Table

APPENDIX J7
IMPLICATIONAL SCALING: ALL GROUP C SUBJECTS

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
FKi1	1	88	97	98	86	85	94
FKi4	2	97	95	90	90	84	88
FKi3	3	87	89	91	85	83	89
6Ki3	4	83	88	91	78	80	88
8Ki3	5	85	88	84	79	82	80
8Ki2	6.5	89	90	85	80	78	73
7Ki2	6.5	85	86	82	86	79	77
FKi2	8	88	86	87	73	81	78
8Ki1	9	82	85	79	79	77	70
8Ki4	10	84	73	73	78	76	67
7Ki3	11.5	79	77	76	81	59	78
6Ki5	11.5	81	73	82	77	72	65
6Ki4	13	80	68	73	70	73	58
Fki5	14	80	67	67	61	74	63
7Ki1	15	75	74	77	70	55	60
7Ki4	16	71	72	78	64	53	50
6Ki1	17	87	58	63	58	61	60
6Ki2	18	69	63	63	63	57	50
7Ki5	19	73	70	55	60	53	50

(i) Quantitative Table

SUBJECT	RANK	IRREG. PLU.	NON PAST	NEG.	REG. PLU.	REG. PAST	IRREG. PAST
FKi1	1	1	1	1	1	1	1
FKi4	2	1	1	1	1	1	1
FKi3	3	1	1	1	1	1	1
6Ki3	4	1	1	1	0	1	1
8Ki3	5	1	1	1	0	1	1
8Ki2	6.5	1	1	1	1	0	0
7Ki2	6.5	1	1	1	1	0	0
FKi2	8	1	1	1	0	1	0
8Ki1	9	1	1	0	0	0	0
8Ki4	10	1	0	0	0	0	0
7Ki3	11.5	0	0	0	1	0	0
6Ki5	11.5	1	0	0	0	0	0
6Ki4	13	1	0	0	0	0	0
Fki5	14	1	0	0	0	0	0
7Ki1	15	0	0	0	0	0	0
7Ki4	16	0	0	0	0	0	0
6Ki1	17	1	0	0	0	0	0
6Ki2	18	0	0	0	0	0	0
7Ki5	19	0	0	0	0	0	0
ERRORS		2	0	0	3	1	0
CORRECT		14	9	8	6	6	5

TOTALS ERRORS = 6 TOTAL CORRECT = 48

(ii) Binary Table

APPENDIX J_8

IMPLICATIONAL SCALING ALL 59 SUBJECTS

A = REG, PAST
B = IRREG, PAST
C = NON PAST
D = REG, PLU,
E = IRREG, PLU,
F = NEG

SUBJ	RANK	E	C	F	D	B	A	SUBJ	RANK	E	C	F	D	B	A
FL2	1	100	96	91	95	100	90	FL2	1	1	1	1	1	1	1
FKa5	2	90	95	92	88	95	97	FKa5	2	1	1	1	1	1	1
FL4	3	93	88	97	89	94	90	FL4	3	1	1	1	1	1	1
FL3	4	100	88	97	93	90	82	FL3	4	1	1	1	1	1	1
FKi1	5	88	98	97	86	85	94	FKi1	5	1	1	1	1	1	1
FKi4	6	97	90	95	90	84	88	FKi4	6	1	1	1	1	1	1
FL5	7,5	89	89	100	85	87	89	FL5	7	1	1	1	1	1	1
8Ka2	7,5	100	95	81	90	88	85	8Ka2	8	1	1	1	1	1	1
8Ka1	9	98	93	81	79	89	89	8Ka1	9	1	1	1	0	1	1
FKi3	10	87	91	89	85	83	89	FKi3	10	1	1	1	1	1	1
7L3	11	94	85	86	83	80	91	7L3	11	1	1	1	1	1	1
FKa3	12,5	88	83	84	91	86	81	FKa3	12,5	1	1	1	1	1	1
FKa4	12,5	92	81	86	80	88	86	FKa4	12,5	1	1	1	1	1	1
6Ki3	14	83	91	88	78	80	88	6Ki3	14	1	1	1	0	1	1
7Ka3	15	94	87	83	83	72	85	7Ka3	15	1	1	1	1	0	1
8Ka4	16	85	91	83	86	78	80	8Ka4	16	1	1	1	1	0	1
8Ki3	17	85	84	88	79	82	80	8Ki3	17	1	1	1	0	1	1
7Ka4	18	88	88	77	83	79	82	7Ka4	18	1	1	0	1	0	1
8L2	19	93	83	89	74	79	78	8L2	19	1	1	1	0	0	0
8Ki2	20,5	89	85	90	80	78	73	8Ki2	20,5	1	1	1	1	0	0
7Ki2	20,5	85	82	86	86	79	77	7Ki2	20,5	1	1	1	1	0	0
FKa1	22	80	82	87	76	86	83	FKa1	22	1	1	1	0	1	1
FKi2	23	88	87	86	73	81	78	FKi2	23	1	1	1	0	1	0
FL1	24	83	94	86	82	82	63	FL1	24	1	1	1	1	1	0
8Ki1	25	82	79	85	79	77	70	8Ki1	25	1	0	1	0	0	0
7Ka5	26	82	74	73	78	78	80	7Ka5	26	1	0	0	0	0	1
8Ka5	27	82	85	84	72	66	73	8Ka5	27	1	1	1	0	0	0
6L2	28	85	70	76	76	74	78	6L2	28	1	0	0	0	0	0

8Ki4	30	84	73	73	78	76	67	8Ki4	30	1	0	0	0	0	0
7Ka2	30	90	76	80	74	71	60	7Ka2	30	1	0	1	0	0	0
7L2	30	81	80	71	79	73	67	7L2	30	1	1	0	0	0	0
7Ki3	32,5	79	76	77	81	59	78	7Ki3	32,5	0	0	0	1	0	0
6Ki5	32,5	81	82	73	77	72	65	6Ki5	32,5	1	1	0	0	0	0
6Ka2	34	81	80	80	67	65	68	6Ka2	34	1	1	1	0	0	0
8L3	35	83	78	70	64	67	69	8L3	35	1	0	0	0	0	0
6L1	36	83	88	75	70	62	50	6L1	36	1	1	0	0	0	0
7L4 -	37,5	79	79	69	70	62	63	7L4	37,5	0	0	0	0	0	0
6Ki4	37,5	80	73	68	70	73	58	6Ki4	37,5	1	0	0	0	0	0
FKa2	39	75	80	83	66	60	53	FKa2	39	0	1	1	0	0	0
FKi5	40	80	67	67	61	74	63	FKi5	40	1	0	0	0	0	0
8Ka3	41	83	70	68	61	69	63	8Ka3	41	1	0	0	0	0	0
7Ka1	42	81	71	76	66	69	50	7Ka1	42	1	0	0	0	0	0
7Ki1	43	75	77	74	70	55	60	7Ki1	43	0	0	0	0	0	0
6Ka4	44	74	78	68	59	63	63	6Ka4	44	0	0	0	0	0	0
8L4	45	71	76	63	72	61	59	8L4	45	0	0	0	0	0	0
6Ka5	46	80	70	61	64	60	63	6Ka5	46	1	0	0	0	0	0
6L3	47	68	75	66	70	58	55	6L3	47	0	0	0	0	0	0
8L1	48	75	67	67	65	65	52	8L1	48	0	0	0	0	0	0
7Ki4	49	71	78	72	64	53	50	7Ki4	49	0	0	0	0	0	0
6Ki1	50	87	63	58	58	61	60	6Ki1	50	1	0	0	0	0	0
8L5	51	70	59	76	58	54	50	8L5	51	0	0	0	0	0	0
6L5	52,5	68	74	65	65	44	50	6L5	52,5	0	0	0	0	0	0
6Ki2	52,5	69	64	63	63	57	50	6Ki2	52,5	0	0	0	0	0	0
7Ki5	54	73	55	70	60	53	50	7Ki5	54	0	0	0	0	0	0
6Ka1	55	57	64	70	60	44	61	6Ka1	55	0	0	0	0	0	0
7L1	56	70	56	65	52	47	61	7L1	56	0	0	0	0	0	0
6Ka3	57	52	66	46	61	41	33	6Ka3	57	0	0	0	0	0	0
7L5	58	63	56	55	43	47	30	7L5	58	0	0	0	0	0	0
6L4	59	56	58	46	22	35	29	6L4	59	0	0	0	0	0	0

(i) Quantitative Table

ERRORS	5	7	5	6	6	2
CORRECT	41	30	28	19	18	20

TOTAL ERRORS = 31 TOTAL CORRECT = 156

Binary Table

Coefficients;

Coefficient of Reproducibility = 0 , 912
Minimal Marginal Reproducibility = 0 , 441
% improvement in Reproducibility = 0 , 471
Coefficient of Scalability = 0 , 843

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